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Fuel Oil and Kerosene Sales 1989

January 1991

Energy Information Administration

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January 1991

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Office of Oil and Gas
U.S. Department of Energy
Washington DC 20585

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Introduction

This is the first presentation of statistics of fuel oil and kerosene sales as a stand-alone publication. Prior to this report the statistics appeared in the *Petroleum Marketing Annual* (PMA) for reference year 1988 and the *Petroleum Marketing Monthly* (PMM) for reference years 1984 through 1987. This is the sixth annual presentation of the results of the ongoing "Annual Fuel Oil and Kerosene Sales Report," (Form EIA-821) survey.

Except for the kerosene and on-highway diesel information, data presented in Tables 1 through 12 (Sales of Fuel Oil and Kerosene) present results of the EIA-821 survey. Tables 13 through 24 (Adjusted Sales of Fuel Oil and Kerosene) include volumes which are based on the EIA-821 survey but have been adjusted at the Petroleum Administration for Defense (PAD) district level to equal the products supplied volumes published in the *Petroleum Supply Annual* (PSA). Please note: Tables 13 through 24 were formerly titled "Deliveries." However, due to confusion over the different titles in the two sets of tables, the titles in Tables 13 through 24 were changed to better reflect the intent of the data. This was a request made by the user community.

Tables 1 through 12 contain sales estimates from the EIA-821 survey based on data reported in the survey for all categories except kerosene and on-highway diesel. For on-highway diesel the survey was not expected to yield valid statistics because the frame does not include all truck stops. Hence, State-level data obtained from the Federal Highway Administration were used instead.

Kerosene sales data were not expected to be complete because a comprehensive listing of kerosene retailers was not available to serve as a sampling frame. It was thought that a complete frame would be expensive to construct because many kerosene retailers are convenience stores or other small businesses. Because of these concerns, kerosene sales data have been published only after adjusting the sales data so that they add to the U.S. total of kerosene product supplied from the PSA. The 1989 U.S. total sales volume for kerosene from the survey was 931,016 thousand gallons. For Tables 1 through 12, this figure was adjusted to the PSA figure of 1,291,668 thousand gallons, an adjustment factor of 1.387. The distillate and residual fuel oil sales totals were less than 4 percent greater than the products supplied totals, and were not adjusted at the national level.

Recent investigations in five States showed that in those States missing units contributed only a small volume of kerosene sales. The same investigation showed that another significant reason for the differences between kerosene sales and kerosene product supplied is product fungibility. Kerosene, kerosene-type jet fuel, and No. 1 fuel oil can be used interchangeably, which explains a large part of the difference between kerosene product supplied and kerosene sales. In addition, in colder climates, kerosene is blended with distillate fuel and sold as fuel oil, resulting in less kerosene sold than supplied.

In Tables 13 through 24, PAD district-level estimates of distillate and residual fuel oils, and kerosene are adjusted to equal published PSA volume estimates of products supplied data. For certain sales categories, data obtained from alternate sources are used instead of the adjusted numbers. See "Technical Note 3" for further explanation. The sales data have been adjusted in this way and published by the Energy Information Administration (EIA) since 1978. Initially, the adjustment was done because EIA did not believe that the data from the sales survey were reliable. However, significant improvements were made to the sampling frame and sample in 1984. EIA is continuing to publish the adjusted sales data because of historical precedent.

For the reasons mentioned above (i.e., frame undercoverage, product fungibility, and blending), the adjustment factors for kerosene by PAD district for 1989 are in some PAD districts much larger than the national adjustment factor as shown below. Adjustment factors for distillate and residual fuel oil are presented in "Technical Note 3."

Kerosene Adjustment Factor

- PAD District I: .68
- PAD District II: 1.50
- PAD District III: 14.16
- PAD District IV: .67
- PAD District V: 2.28

The sales data (Tables 1 through 12) differ from the adjusted sales estimates (Tables 13 through 24) for many reasons, including:

- Some products are interchangeable (fungible) and may be supplied as one product and sold as another product. For example, as stated above, kerosene, kerosene-type jet fuel, and No. 1 fuel oil can be used interchangeably.
- Products supplied into a PAD district may be blended prior to final sale. For example, residual fuel and No. 2 distillate may be blended and sold as No. 4 fuel oil or, in colder climates, kerosene may be blended with distillate fuel oil and sold as heating oil.
- Geographic differences can be attributed to the transportation of product by truck or rail from the district of production. Inter-PAD-district movements of products by these modes of transportation are not accounted for in Tables 13 through 24.
- Products may be supplied into a PAD district but the final sale may cross PAD district boundaries. For example, a fuel oil dealer in Ohio (PAD District II) may make retail sales into Pennsylvania (PAD District IB) and/or West Virginia (PAD District IC).
- Drawdowns or buildups in stocks will cause volumes supplied to differ from sales volumes.

Sales of Fuel Oil and Kerosene in 1989

Overview

Despite the rise in petroleum products prices,[1] a colder-than-normal winter in the latter part of 1989[2] spurred an increase in demand for distillate fuel oils. The shipping and electric utilities industries contributed to a significant rise in demand for both distillate and residual fuels oils in 1989.

A total of 72.9 billion gallons of fuel oil and kerosene were sold to consumers in 1989, an increase of 3.0 percent over 1988 sales volumes. Of all fuel oil sold during 1989, distillate fuel oil accounted for 68.3 percent, which was an increase over 1988 when distillate fuel oil accounted for 67.2 percent of all fuel oil products sold in the United States. Residual fuel oil's share of total fuel oil sold fell slightly to 29.9 percent from 30.7 percent in 1988. Kerosene followed with a 1.8 percent share, also falling from the previous year when it accounted for a 2.1 percent share of total fuel oil sold.

Distillate Fuel Oil

Distillate fuel oil sales reached another all-time high, with approximately 49.8 billion gallons sold in 1989. This was a 4.6 percent increase over the previous year's sales. As in past years, transportation sales dominated total distillate sales, with a 53.4 percent share, an increase of 0.6 percentage points over 1988 (Figure 1). Of the transportation sales, on-highway diesel accounted for the largest volume of sales with 21.1 billion gallons sold; its share of total distillate sales also increased from 42.1 percent in 1988 to 42.4 percent in 1989. The majority of all distillate end-use sectors showed an increase in sales over 1988. The largest sales increases occurred in vessel bunkering and electric utility sectors, where customers increased their purchases by 13.4 and 23.3 percent, respectively, in 1989.

Residential sales rose 1.5 percent in 1989; however, their share of total distillate sales fell from 17.9 percent in 1988 to 17.4 percent in 1989. Sales to industrial and farm customers rebounded from 1988 by showing an increase of 6.4 and 6.2 percent, respectively. Industrial and farm distillate shares also increased during this time period from 5.4 to 5.5 percent and 6.6 to 6.7 percent, respectively.

Figure 2 depicts the volume distribution of distillate fuel oil by Petroleum Administration Defense (PAD) districts for 1987-1989. PAD District I, the East Coast, accounted for the majority of sales for this time period. However, its share of these sales declined for the second straight year, down from 42.5 percent in 1987 to 40.7 percent in 1989. PAD District II, the Midwest, showed an increase in its share of distillate sales from 28.1 in 1987 to 28.8 percent in 1989. Distillate fuel oil sales increased the most in PAD District III, the Gulf Coast, up 8.4 percent. The percentage share of total distillate sales remained basically the same for PAD District IV, the Rocky Mountain Region, and PAD District V, the West Coast, during 1988 and 1989.

Residual Fuel Oil

Although prices of residual fuel oil rose in 1989, sales of residual fuel oil increased for the second straight year. Electric utilities and shippers continued their demand for large quantities of residual fuel oil in 1989, particularly ship owners, whose purchases increased 13.2 percent over 1988. The share of vessel bunkering sales relative to total residual fuel oil sales also increased from 29.3 percent in 1988 to 32.9 percent in 1989.

Sales of residual fuel oil to electric utilities increased slightly in 1989 (2.3 percent). Competitive prices in early 1989 gave electric utility companies the option of using residual fuel oil to meet customer demand. As prices of residual fuel oil continued to climb during the year, their purchases of residual fuel oil tapered off; however, their share of total residual fuel oil sales increased in 1989, up 0.7 percentage points from 1988.

The majority of residual fuel oil sales to electric utilities remained on the East Coast, PAD District I, with an 87.8 percent share of all electric utility residual fuel oil sales (Figure 3). This was an increase over 1988 when the share was 84.4 percent; however, this was still below the share of 1987 when PAD District I accounted

[1]Energy Information Administration, *Petroleum Marketing Monthly*, DOE/EIA-0380(89/12) (Washington, D.C., February 1990), Tables 2 and 4, pp. 14 and 16.

[2]Energy Information Administration, *Short-Term Energy Outlook*, DOE/EIA-0202(90/2Q) (Washington, D.C., February 1990), Table 4, p. 42.

for a 90.8 percent share of electric utility residual fuel oil sales

Higher residual fuel oil prices also had an effect on other end-use sales of residual fuel oil. In particular, oil company, industrial[1] and commercial end-use sales which fell 31.8, 17.7, and 7.0 percent, respectively, from 1988. Because natural gas prices fell during mid-year 1989, industrial and commercial end-users opted to switch to natural gas for space heating and operating equipment.

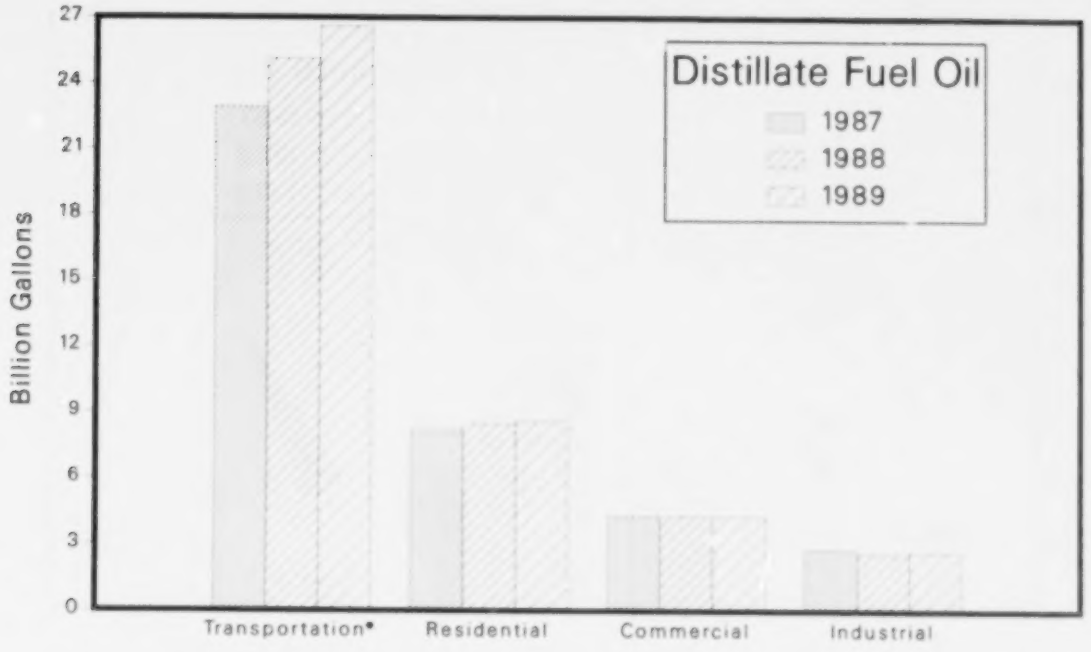
The majority of residual fuel oil sales were made in PAD District I, the East Coast (Figure 2). The share of total residual fuel oil sold in this PAD district increased from 60.2 percent in 1988 to 61.4 percent in 1989. PAD District III, the Gulf Coast, showed an increase in its share of residual fuel oil brought on mostly by an increase of vessel bunkering sales in this area. Vessel bunkering sales in this region were up 17.0 percent over 1988. PAD District V, the West Coast, also showed an increase in vessel bunkering sales; however, the overall share of residual fuel oil sales in this PAD district fell 1.6 percentage points from 1988.

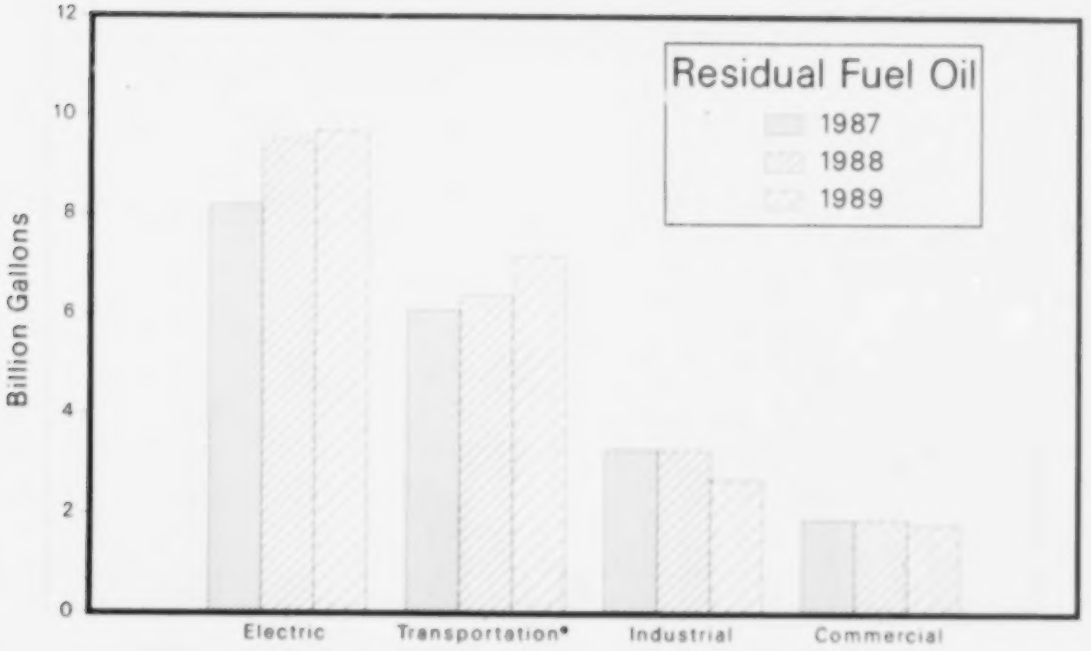
Kerosene

Kerosene sales fell in 1989 after making a come back in 1988. Overall sales of kerosene decreased by 12.6 percent in 1989. The majority of sales were made to residential and commercial customers, 67.3 and 15.8 percent, respectively. While the share of kerosene sales to residential end users fell 4.6 percentage points from 1988, the share of sales to commercial end users increased 2.8 percentage points during this same time period. As in past years, PAD Districts I and II (the East Coast and Midwest) accounted for the bulk of kerosene sales.

[1]Industrial residual fuel oil sales decreased by 17.7 percent in 1989. During the validation of these data, it was found that some companies had misclassified their industrial residual fuel oil sales in 1988. In 1989, these sales were reported as vessel bunkering residual fuel oil sales. Approximately 200 million gallons of residual fuel oil sales were incorrectly reported as industrial end-use sales in 1988. Hence, residual fuel oil sales would not have shown this large decrease in 1989 had these volumes been correctly reported in 1988.

Figure 1. U.S. Sales of Distillate and Residual Fuel Oils by End Use, 1987-1989

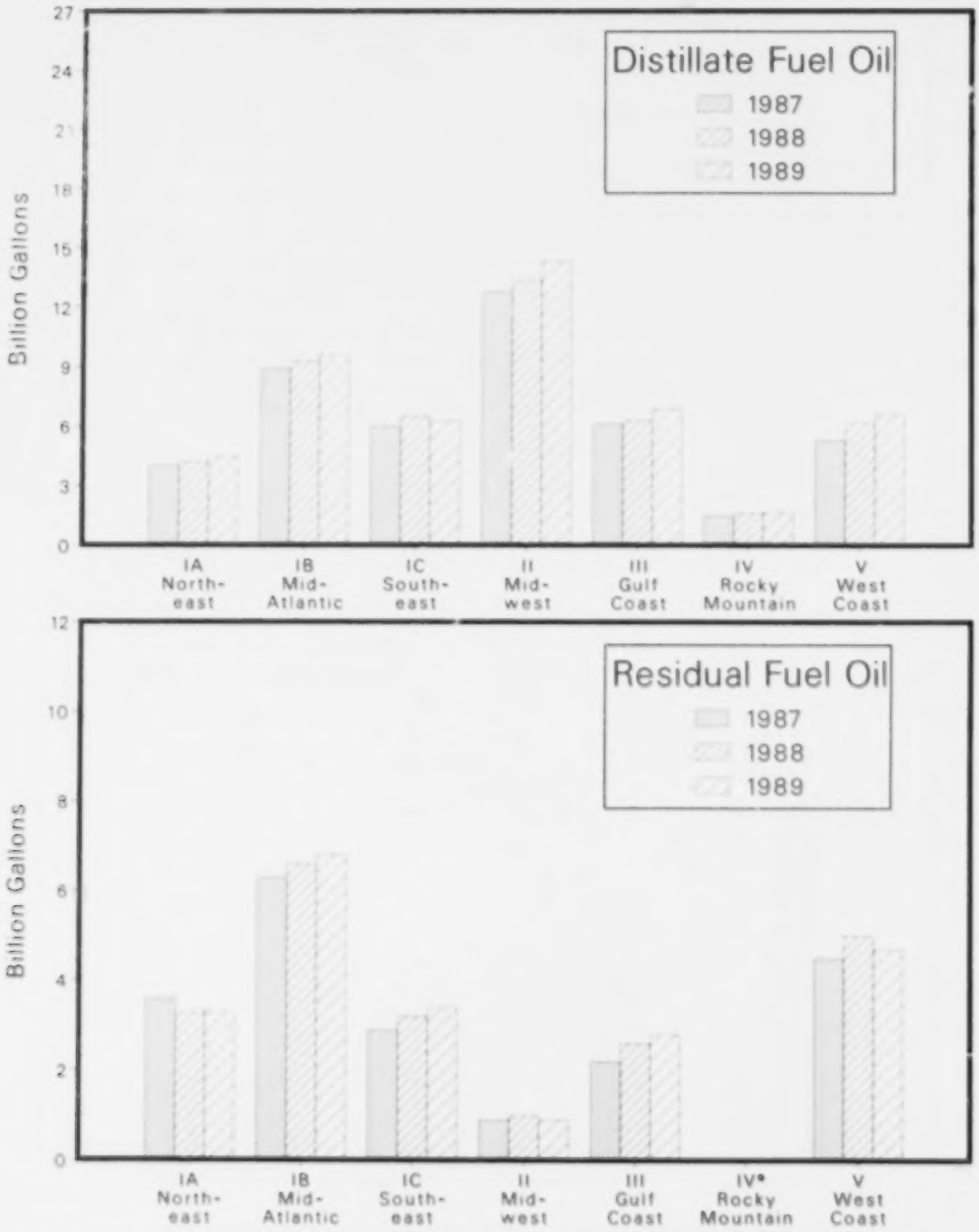




*For distillate fuel oil, transportation use comprises railroad, vessel bunkering, and on-highway diesel end-use categories. For residual fuel oil, transportation use comprises railroad and vessel bunkering end-use categories.

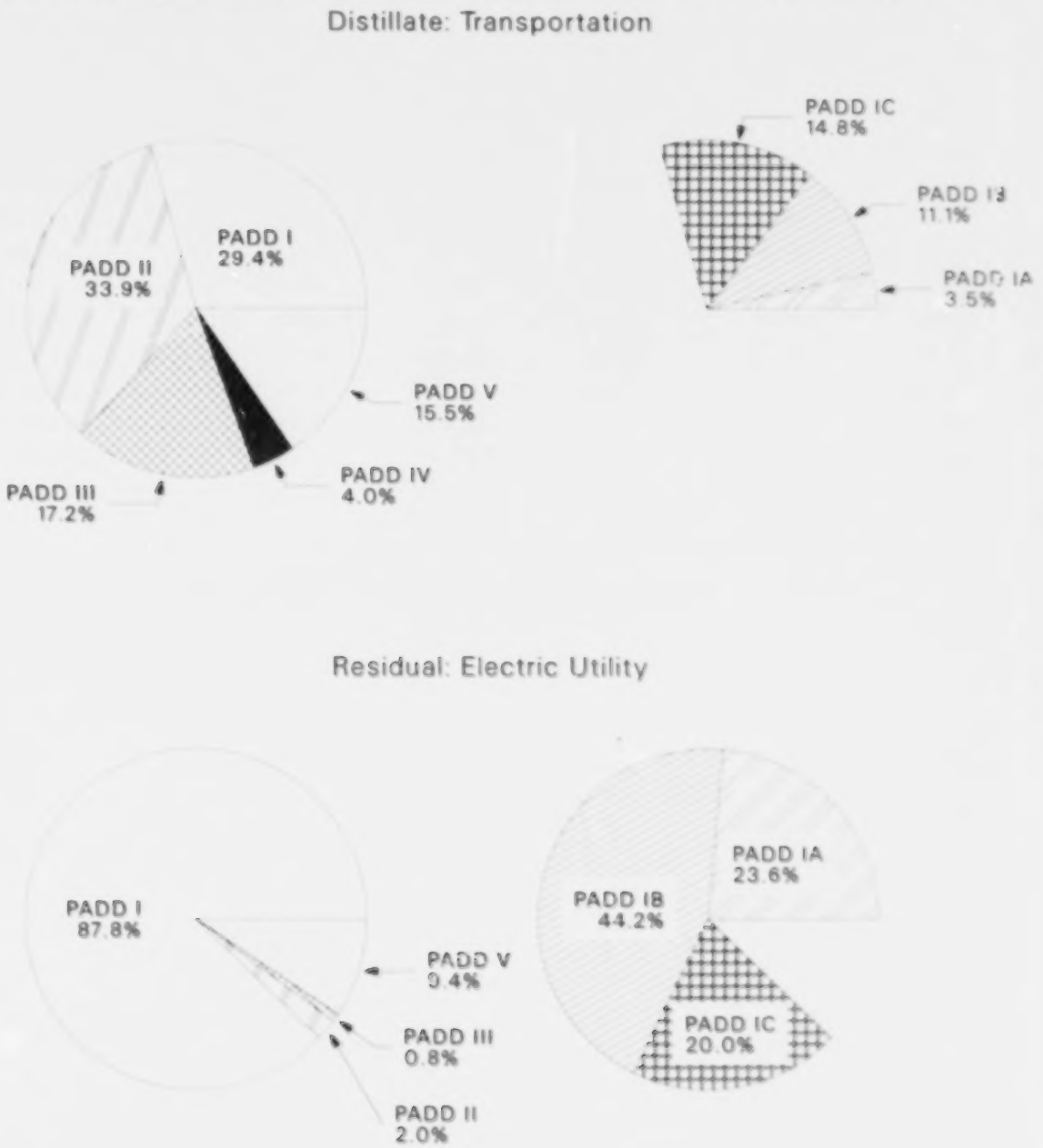
Sources: Energy Information Administration, "Fuel Oil and Kerosene Sales, 1989," Tables 1 and 2.

Figure 2. Volume Distribution of Distillate and Residual Fuel Oils by PAD District, 1987-1989



*Residual fuel oil sales in PAD District IV were too small to appear in this graph.
Sources: Energy Information Administration, "Fuel Oil and Kerosene Sales, 1989," Tables 4 and 5. "Petroleum Marketing Monthly," June 1988, Tables A4 and A5.

Figure 3. Distillate and Residual Fuel Oil Sales for Largest End-Use Categories, by PAD District



Source: Energy Information Administration, "Fuel Oil and Kerosene Sales, 1989," Tables 4 and 5.

Table 1. Sales of Distillate Fuel Oil by End Use in the United States: 1985-1989

(Thousand Gallons)

End Use	Distillate Fuel Oil				
	1985	1986	1987	1988	1989
U.S. Total	**43,058,711**	**45,124,491**	**44,719,327**	**47,576,811**	**49,788,896**
Residential	7,728,057	8,098,496	8,179,134	8,518,859	8,648,629
Commercial	4,463,226	4,542,253	4,299,580	4,294,182	4,277,105
Industrial	2,440,661	2,681,720	2,823,679	2,562,685	2,725,774
Oil Company	684,227	623,004	618,193	622,736	683,683
Farm	3,102,106	3,340,813	2,998,681	3,162,575	3,360,092
Electric Utility	523,010	583,579	562,665	720,137	37,599
Railroad	2,786,479	2,850,311	2,850,159	3,095,736	3,240,649
Vessel Bunkering	1,698,985	1,949,423	1,864,992	1,991,773	2,258,465
On-Highway Diesel	17,279,650	17,926,508	18,172,934	20,038,691	21,131,692
Military	661,644	720,880	712,822	830,614	852,839
Off-Highway Diesel	1,522,041	1,659,365	1,559,873	1,671,387	1,689,651
All Other	168,625	148,138	76,615	67,435	32,719

Note: Totals may not equal sum of components due to independent rounding.
Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1985-1989.
• On-Highway Diesel data are Federal Highway Administation statistics of highway special fuels use.

Table 2. Sales of Residual Fuel Oil by End Use in the United States: 1985-1989
(Thousand Gallons)

End Use	Residual Fuel Oil				
	1985	1986	1987	1988	1989
U.S. Total	**16,069,860**	**22,407,894**	**20,414,122**	**21,719,226**	**21,829,300**
Commercial	1,365,876	1,996,238	1,877,933	1,927,533	1,792,634
Industrial	3,344,772	4,035,217	3,324,337	3,239,538	2,665,438
Oil Company	944,888	803,875	669,176	548,930	374,459
Electric Utility	5,507,617	9,345,361	8,237,163	9,464,457	9,680,974
Railroad	5,973	589	430	32	39
Vessel Bunkering	4,590,013	5,889,476	6,105,089	6,354,536	7,191,689
Military	116,224	102,555	152,028	125,318	92,229
All Other	194,496	234,584	47,966	58,880	31,838

Note: Totals may not equal sum of components due to independent rounding.
Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1985-1989.

Table 3. Sales of Kerosene by End Use in the United States: 1985-1989
(Thousand Gallons)

End Use	Kerosene				
	1985	1986	1987	1988	1989
U.S. Total	**1,745,856**	**1,506,162**	**1,449,504**	**1,478,316**	**1,291,668**
Residential	1,174,226	898,625	879,406	1,063,187	868,728
Commercial	243,218	369,800	360,413	193,476	204,258
Industrial	149,450	111,482	86,020	117,858	124,003
Farm	41,248	37,824	32,025	33,426	30,081
All Other	137,715	88,431	91,641	70,370	64,598

Note: Totals may not equal sum of components due to independent rounding.
Note: Kerosene data in the Sales tables (1-12) are adjusted at the national level. See Technical Note 3 for further explanation.
Sources: • Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1985-1989, (DOE/EIA-0340(85)/1 - (89)/1).

Table 4. Sales of Distillate Fuel Oil by End Use, 1988 and 1989
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1988	1989	1988	1989	1988	1989
U.S. Total	**8,518,859**	**8,648,629**	**4,294,182**	**4,277,105**	**2,562,685**	**2,725,774**
PAD District I Total	**6,842,982**	**6,901,689**	**2,694,430**	**2,854,869**	**1,003,201**	**973,890**
Subdistrict IA Total	**2,237,744**	**2,417,886**	**660,007**	**747,555**	**203,785**	**208,952**
Connecticut	627,071	686,835	144,332	165,454	47,225	44,923
Maine	284,972	274,107	85,363	78,242	29,249	31,487
Massachusetts	684,850	991,111	303,731	374,122	93,147	97,355
New Hampshire	176,247	207,964	55,055	57,275	14,076	14,831
Rhode Island	171,943	153,441	38,557	37,598	10,983	10,615
Vermont	92,661	104,429	32,970	34,865	9,106	9,742
Subdistrict IB Total	**3,880,588**	**3,831,255**	**1,480,067**	**1,630,541**	**420,186**	**368,184**
Delaware	66,498	63,785	18,637	14,385	9,545	10,270
District of Columbia	14,089	7,029	26,124	26,060	47	122
Maryland	282,633	248,079	88,871	96,750	32,205	33,073
New Jersey	834,469	768,811	377,096	394,225	95,636	80,499
New York	1,738,701	1,679,326	702,709	746,919	62,661	71,328
Pennsylvania	944,198	1,064,225	266,630	352,203	220,092	172,892
Subdistrict IC Total	**724,651**	**652,549**	**554,355**	**476,773**	**379,229**	**396,754**
Florida	24,931	17,517	158,091	134,121	38,669	45,937
Georgia	12,302	12,884	57,417	47,056	42,006	50,211
North Carolina	273,796	225,742	147,362	113,509	92,097	93,239
South Carolina	53,464	61,869	50,337	44,673	24,788	28,586
Virginia	332,782	303,435	124,082	113,531	88,088	85,089
West Virginia	27,375	31,102	17,066	23,883	93,581	93,691
PAD District II Total	**1,373,843**	**1,404,069**	**750,697**	**693,799**	**751,713**	**794,541**
Illinois	93,160	79,973	85,906	71,308	75,758	91,162
Indiana	122,680	117,061	58,741	58,438	74,847	102,287
Iowa	48,985	53,894	30,081	24,778	20,685	16,214
Kansas	1,312	1,620	16,918	16,870	14,843	12,531
Kentucky	38,958	37,696	42,848	32,845	159,574	168,586
Michigan	255,530	241,391	106,696	105,118	82,164	60,339
Minnesota	192,125	227,397	48,378	52,285	43,523	44,337
Missouri	27,853	23,967	73,041	46,851	40,357	40,278
Nebraska	8,736	12,598	13,128	11,519	5,350	6,080
North Dakota	42,382	46,192	6,763	9,402	13,217	21,476
Ohio	204,442	231,366	97,982	85,349	111,330	134,230
Oklahoma	1,225	20	27,411	32,264	25,807	26,845
South Dakota	40,390	45,547	15,157	11,148	8,794	6,198
Tennessee	9,909	12,373	48,428	33,615	44,606	38,175
Wisconsin	286,156	272,972	79,220	102,007	30,857	25,803
PAD District III Total	**2,493**	**2,231**	**249,396**	**238,661**	**274,176**	**316,694**
Alabama	1,117	1,055	29,775	37,727	55,691	59,432
Arkansas	35	23	6,734	13,515	12,796	16,765
Louisiana	63	237	34,309	25,967	22,875	17,725
Mississippi	114	200	15,869	26,273	21,514	17,242
New Mexico	324	323	14,859	15,544	44,856	32,365
Texas	841	394	147,850	119,634	116,445	173,164
PAD District IV Total	**40,389**	**48,390**	**99,199**	**73,666**	**154,699**	**192,731**
Colorado	2,005	1,709	38,625	22,055	40,819	34,375
Idaho	23,335	22,843	16,359	14,257	18,079	29,332
Montana	8,896	14,991	7,551	8,343	16,368	44,728
Utah	4,985	7,488	26,446	18,796	36,910	31,308
Wyoming	1,168	1,361	10,218	10,216	42,523	52,988
PAD District V Total	**259,151**	**292,250**	**500,461**	**416,111**	**378,896**	**447,917**
Alaska	49,864	66,705	33,963	36,238	25,527	37,130
Arizona	244	296	18,839	16,445	34,487	62,315
California	8,851	10,578	245,044	202,765	196,820	176,086
Hawaii	68	17	23,428	21,766	4,377	4,280
Nevada	11,286	11,078	17,653	16,634	53,150	99,407
Oregon	71,483	82,988	58,974	47,226	26,879	26,868
Washington	117,356	120,587	102,560	75,037	35,657	39,830

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Oil Company		Farm		Electric Utility	
	1988	1989	1988	1989	1988	1989
U.S. Total	**622,736**	**683,683**	**3,162,575**	**3,360,092**	**720,137**	**887,599**
PAD District I Total	**39,973**	**44,067**	**459,009**	**457,637**	**378,314**	**516,159**
Subdistrict IA Total	**1,696**	**2,106**	**24,647**	**21,820**	**27,337**	**32,525**
Connecticut	273	329	2,166	2,897	2,165	4,431
Maine	13	463	6,949	5,219	546	2,398
Massachusetts	970	877	2,782	3,345	19,851	20,113
New Hampshire	72	123	2,619	2,254	1,110	2,720
Rhode Island	341	287	264	229	1,948	1,613
Vermont	28	27	9,868	7,876	1,718	1,248
Subdistrict IB Total	**31,600**	**36,606**	**150,822**	**165,860**	**243,655**	**330,245**
Delaware	432	309	7,363	6,369	5,635	11,774
District of Columbia	–	–	–	–	64,553	59,210
Maryland	958	1,113	28,403	27,497	15,029	52,289
New Jersey	5,623	4,869	19,155	21,972	29,842	45,090
New York	8,533	11,822	57,684	56,179	73,790	93,882
Pennsylvania	16,053	18,492	38,217	53,843	54,806	67,999
Subdistrict IC Total	**6,677**	**5,355**	**283,540**	**269,956**	**107,323**	**153,389**
Florida	1,066	1,125	94,897	54,642	50,454	65,510
Georgia	178	321	75,174	95,374	11,260	13,291
North Carolina	25	93	49,807	45,504	16,592	18,444
South Carolina	787	344	24,417	31,491	7,824	9,773
Virginia	1,354	1,251	33,457	37,243	15,509	27,883
West Virginia	3,267	2,220	5,788	5,702	5,685	18,488
PAD District II Total	**60,905**	**72,953**	**1,595,064**	**1,678,844**	**144,946**	**154,963**
Illinois	7,885	7,323	197,714	205,518	26,655	20,280
Indiana	1,348	1,121	88,937	101,433	17,145	23,953
Iowa	57	85	183,670	177,815	7,762	3,975
Kansas	8,083	9,667	153,373	159,526	5,652	6,144
Kentucky	600	823	46,076	46,509	7,866	14,074
Michigan	4,056	1,630	78,681	72,086	30,715	31,072
Minnesota	536	631	161,127	155,934	7,596	5,252
Missouri	486	380	78,460	95,572	8,635	7,915
Nebraska	479	27	166,328	175,469	582	3,211
North Dakota	2,809	5,326	86,453	108,306	1,799	3,540
Ohio	7,892	7,414	79,411	90,144	18,186	17,498
Oklahoma	24,877	37,330	53,994	49,546	59	446
South Dakota	12	14	95,681	89,756	1,139	709
Tennessee	1,029	664	39,254	47,708	2,558	2,835
Wisconsin	757	518	85,905	103,523	8,596	14,060
PAD District III Total	**423,412**	**494,433**	**570,219**	**541,353**	**64,493**	**94,515**
Alabama	1,361	7,313	23,401	44,127	6,488	8,627
Arkansas	731	3,594	96,765	67,379	9,993	9,110
Louisiana	190,105	240,380	112,009	67,122	12,016	16,759
Mississippi	25,378	13,504	77,054	97,469	3,925	4,173
New Mexico	10,527	8,437	16,990	12,381	348	5,225
Texas	195,309	221,206	244,000	252,875	31,723	50,623
PAD District IV Total	**18,462**	**20,389**	**174,022**	**191,225**	**13,048**	**15,576**
Colorado	3,910	1,283	56,167	53,285	2,779	4,246
Idaho	84	8	59,675	66,552	43	22
Montana	932	1,066	33,823	52,506	939	2,100
Utah	1,404	4,347	15,157	9,413	3,948	3,532
Wyoming	12,132	13,686	9,200	9,469	5,339	5,676
PAD District V Total	**79,985**	**51,841**	**364,262**	**491,034**	**119,336**	**106,386**
Alaska	39,515	28,599	331	269	31,379	18,061
Arizona	213	70	20,725	33,116	4,494	3,605
California	37,053	20,300	235,378	316,155	25,671	16,223
Hawaii	1,647	966	17,100	11,649	54,780	61,077
Nevada	152	336	7,724	5,428	1,591	2,171
Oregon	573	292	45,487	51,532	420	4,412
Washington	831	1,279	37,518	72,685	999	837

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		On-Highway	
	1988	1989	1988	1989	1988	1989
U.S. Total	**3,095,736**	**3,240,649**	**1,991,773**	**2,258,465**	**20,038,691**	**21,131,692**
PAD District I Total	**614,324**	**551,268**	**534,979**	**521,110**	**6,712,224**	**6,752,738**
Subdistrict IA Total	**17,960**	**35,062**	**52,628**	**67,894**	**836,650**	**827,956**
Connecticut	140	5,374	7,636	2,249	212,589	257,361
Maine	8,747	6,377	10,476	14,097	175,344	139,908
Massachusetts	5,496	19,591	32,197	43,961	293,007	271,944
New Hampshire	139	36	584	387	58,051	59,561
Rhode Island	336	530	1,334	6,778	43,741	52,932
Vermont	3,102	3,154	400	422	53,918	46,250
Subdistrict IB Total	**203,260**	**178,330**	**203,831**	**191,904**	**2,497,825**	**2,571,926**
Delaware	1,666	1,030	4,164	3,746	55,412	74,089
District of Columbia	3,917	13,191	39	25	23,033	23,064
Maryland	30,833	40,728	9,242	10,012	299,521	351,150
New Jersey	49,332	62,243	149,331	136,992	477,858	453,482
New York	35,473	17,457	12,422	11,409	713,826	754,276
Pennsylvania	82,038	43,679	28,633	29,720	928,175	915,865
Subdistrict IC Total	**393,104**	**337,876**	**278,520**	**261,312**	**3,377,749**	**3,352,856**
Florida	93,617	84,939	119,900	103,032	832,093	899,369
Georgia	82,614	65,462	28,145	40,099	831,267	838,847
North Carolina	52,122	36,898	9,806	9,930	711,035	614,485
South Carolina	35,308	30,723	10,169	6,186	310,365	302,614
Virginia	117,410	93,726	59,569	29,071	532,848	537,569
West Virginia	12,033	26,127	50,931	72,993	160,141	159,972
PAD District II Total	**1,231,924**	**1,326,339**	**308,552**	**458,790**	**6,645,800**	**7,253,324**
Illinois	86,536	138,438	26,588	39,678	771,366	839,968
Indiana	185,097	225,525	11,467	11,125	628,647	784,441
Iowa	35,603	33,695	1,673	2,896	333,931	349,044
Kansas	143,757	168,700	-	-	331,926	303,893
Kentucky	116,399	115,661	88,945	118,211	512,517	692,215
Michigan	41,372	42,376	10,847	5,491	526,217	528,906
Minnesota	40,808	39,159	1,219	3,221	331,701	331,625
Missouri	33,649	34,624	49,002	53,014	535,424	641,680
Nebraska	154,686	121,912	-	80	217,014	208,258
North Dakota	37,673	36,188	-	-	89,873	90,544
Ohio	144,208	122,714	4,402	10,171	861,428	960,195
Oklahoma	63,462	77,737	385	321	394,165	394,174
South Dakota	1,678	2,357	-	-	91,906	91,221
Tennessee	89,022	61,730	107,929	210,942	578,829	587,396
Wisconsin	57,973	105,521	6,094	3,641	440,836	449,764
PAD District III Total	**567,356**	**636,216**	**598,947**	**730,531**	**3,012,582**	**3,221,237**
Alabama	63,273	66,745	41,156	102,207	480,340	544,882
Arkansas	20,730	34,945	162	487	346,026	395,236
Louisiana	69,835	78,426	318,200	336,513	383,054	385,621
Mississippi	14,784	17,760	66,241	55,534	302,361	302,523
New Mexico	44,311	51,784	-	-	204,734	205,916
Texas	354,424	386,555	173,189	235,789	1,296,067	1,387,059
PAD District IV Total	**285,616**	**310,192**	**73**	**131**	**725,429**	**734,904**
Colorado	66,576	87,970	-	62	188,922	185,519
Idaho	22,589	19,585	73	69	99,626	117,246
Montana	56,648	58,855	-	-	115,899	119,503
Utah	33,422	34,590	-	-	149,108	125,184
Wyoming	106,380	109,191	-	-	171,874	187,452
PAD District V Total	**396,516**	**416,635**	**549,222**	**547,903**	**2,942,656**	**3,169,489**
Alaska	2,889	4,927	58,520	138,221	83,235	96,446
Arizona	22,588	8,288	-	-	299,981	314,671
California	184,690	216,816	341,991	208,063	1,760,085	1,913,647
Hawaii	18	17	55,937	86,679	21,935	23,717
Nevada	28,358	23,341	-	-	118,022	131,055
Oregon	86,683	85,764	30,547	35,865	302,381	311,843
Washington	71,290	77,481	62,226	79,074	357,017	378,110

See footnotes at end of table.

Table 4. Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued
(Thousand Gallons)

Destination	Military		Off-Highway		All Other		Total	
	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	**830,614**	**852,839**	**1,671,387**	**1,689,651**	**67,435**	**32,719**	**47,576,811**	**49,788,896**
PAD District I Total	**203,769**	**162,510**	**471,882**	**530,679**	**17,975**	**.2 998**	**19,973,062**	**20,279,614**
Subdistrict IA Total	**15,731**	**17,361**	**72,964**	**76,448**	**766**	**687**	**4,151,915**	**4,456,252**
Connecticut	1,483	702	13,653	21,512	319	551	1,059,052	1,192,619
Maine	2,619	3,431	22,770	14,755	–	45	627,050	570,529
Massachusetts	4,377	2,285	20,040	20,943	75	–	1,660,522	1,845,647
New Hampshire	86	1,772	6,947	8,821	–	–	314,984	355,744
Rhode Island	6,460	8,907	1,136	3,844	210	91	277,252	276,865
Vermont	705	264	8,417	6,572	162	–	213,055	214,849
Subdistrict IB Total	**41,008**	**63,949**	**153,090**	**208,065**	**3,735**	**3,838**	**9,309,668**	**9,580,703**
Delaware	37	98	3,847	4,830	107	–	173,344	190,686
District of Columbia	10,046	3,444	92	36	–	–	141,939	132,181
Maryland	4,468	25,677	17,362	36,975	3,081	2,954	812,606	926,298
New Jersey	6,830	10,489	32,246	60,297	36	55	2,077,454	2,039,025
New York	14,337	11,967	47,707	46,325	298	4	3,468,143	3,500,894
Pennsylvania	5,290	12,274	51,836	59,601	213	825	2,636,180	2,791,619
Subdistrict IC Total	**147,030**	**81,200**	**245,828**	**246,166**	**13,474**	**8,474**	**6,511,480**	**6,242,660**
Florida	32,711	23,342	63,841	75,442	1,693	1,503	1,511,962	1,506,480
Georgia	13,739	10,522	40,242	43,889	4,735	1,851	1,199,080	1,219,807
North Carolina	4,898	8,960	32,337	30,641	3,161	2,568	1,393,036	1,200,013
South Carolina	3,662	2,039	28,340	30,580	1,452	1,044	550,915	550,822
Virginia	91,454	35,251	60,282	42,212	2,401	1,493	1,459,236	1,307,754
West Virginia	566	187	20,787	23,402	32	15	397,251	457,784
PAD District II Total	**53,071**	**53,700**	**433,175**	**410,067**	**42,684**	**16,777**	**13,392,376**	**14,318,165**
Illinois	1,965	5,337	59,218	45,245	3,706	194	1,436,477	1,544,425
Indiana	4,215	7,914	18,775	35,500	3,344	3,397	1,215,244	1,472,196
Iowa	115	327	18,128	11,561	2,979	2,260	683,668	676,545
Kansas	2,036	1,030	17,910	14,882	1,587	1,928	697,397	696,792
Kentucky	11,286	6,529	22,248	26,279	752	23	1,048,070	1,259,451
Michigan	3,370	3,791	51,986	54,695	2,292	2,101	1,193,926	1,148,997
Minnesota	2,828	2,445	24,719	31,523	2,219	2,190	855,779	896,000
Missouri	6,597	6,017	38,816	25,902	7,101	1,403	899,422	977,602
Nebraska	1,489	1,281	18,921	20,582	–	–	586,714	561,016
North Dakota	2,620	1,620	5,720	5,433	80	234	289,388	328,260
Ohio	9,418	10,358	29,020	33,691	374	404	1,568,092	1,703,534
Oklahoma	2,522	1,796	29,393	26,563	4,827	274	628,127	647,317
South Dakota	763	616	12,218	6,798	352	651	268,091	255,015
Tennessee	1,102	3,355	62,679	32,072	1,292	783	966,638	1,031,648
Wisconsin	2,746	1,282	23,422	39,341	11,779	935	1,034,341	1,119,367
PAD District III Total	**256,918**	**321,472**	**318,345**	**275,769**	**5,534**	**2,505**	**6,343,873**	**6,877,617**
Alabama	3,059	4,634	33,478	46,724	2,255	1,463	741,394	924,936
Arkansas	1,555	1,514	19,505	23,503	1,760	46	516,794	566,118
Louisiana	13,209	60,773	47,184	40,216	188	201	1,203,045	1,269,939
Mississippi	73,503	53,723	21,278	24,562	554	118	622,574	613,082
New Mexico	1,186	667	22,168	15,716	0	35	360,304	348,395
Texas	164,407	202,160	174,734	125,047	776	643	2,899,763	3,155,148
PAD District IV Total	**14,074**	**13,402**	**103,898**	**91,261**	**370**	**438**	**1,629,278**	**1,692,305**
Colorado	7,660	8,144	39,012	26,668	29	45	446,506	425,360
Idaho	2,295	720	15,356	13,524	–	25	257,514	284,182
Montana	434	342	10,089	15,587	192	24	251,770	318,045
Utah	3,430	4,016	19,222	18,086	–	–	294,032	256,759
Wyoming	255	181	20,219	17,396	149	344	379,456	407,959
PAD District V Total	**302,781**	**299,754**	**344,087**	**381,876**	**871**	**–**	**6,238,223**	**6,621,195**
Alaska	16,224	35,657	12,800	14,630	37	–	354,283	476,883
Arizona	1,223	2,358	23,360	39,741	–	–	426,155	480,906
California	204,777	215,013	192,850	202,235	749	–	3,435,959	3,497,880
Hawaii	50,511	32,595	6,677	5,680	–	–	236,478	248,444
Nevada	4,553	4,605	30,296	25,183	31	–	272,814	319,239
Oregon	1,284	767	40,108	46,647	–	–	664,819	696,206
Washington	24,210	8,758	37,995	47,759	55	–	847,714	901,637

Dashes (-) = No data reported.
Note: Totals may not equal sum of components due to independent rounding.
Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.
• On-Highway Diesel data are Federal Highway Administration statistics of highway special fuels use.

Table 5. Sales of Residual Fuel Oil by End Use, 1988 and 1989
(Thousand Gallons)

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	**1,927,533**	**1,792,634**	**3,239,538**	**2,665,438**	**548,930**	**374,459**	**9,464,457**	**9,680,974**
PAD District I Total	**1,546,491**	**1,467,476**	**1,940,369**	**1,816,158**	**100,888**	**156,577**	**7,984,066**	**8,498,763**
Subdistrict IA Total	**347,441**	**389,952**	**551,326**	**516,977**	**299**	**964**	**2,322,851**	**2,282,698**
Connecticut	60,448	72,392	92,559	78,299	299	964	701,259	740,308
Maine	83,327	89,498	220,549	222,110	-	-	182,772	217,011
Massachusetts	151,871	180,430	161,998	159,828	-	-	1,210,192	1,089,908
New Hampshire	21,634	22,345	40,293	28,737	-	-	198,125	213,234
Rhode Island	27,477	21,382	26,079	23,233	-	-	30,503	22,237
Vermont	2,684	3,905	7,848	4,769	-	-	-	-
Subdistrict IB Total	**1,031,628**	**946,321**	**645,941**	**598,962**	**94,555**	**150,828**	**3,927,926**	**4,279,018**
Delaware	7,874	10,931	30,762	27,018	18,913	18,441	130,677	171,304
District of Columbia	9,843	6,051	-	13	-	-	-	-
Maryland	31,868	60,443	43,122	43,144	3,854	2,910	213,148	399,819
New Jersey	126,511	83,931	225,630	185,214	7,718	6,617	560,546	519,702
New York	804,690	742,287	212,668	201,398	1,233	2,694	2,621,013	2,751,059
Pennsylvania	50,841	42,677	133,759	142,175	62,836	120,167	402,541	437,134
Subdistrict IC Total	**167,422**	**131,203**	**743,102**	**700,220**	**6,034**	**4,786**	**1,733,289**	**1,937,047**
Florida	93,319	92,795	176,694	134,636	211	96	1,597,555	1,706,257
Georgia	33,976	12,102	75,623	78,820	740	992	3,081	610
North Carolina	12,506	10,588	237,856	213,468	2,186	2,132	-	-
South Carolina	2,071	1,746	108,659	93,020	123	496	-	-
Virginia	17,890	9,852	125,939	135,027	782	1,070	132,653	230,180
West Virginia	7,659	4,119	18,331	45,250	1,993	-	-	-
PAD District II Total	**86,758**	**71,309**	**521,102**	**450,361**	**173,635**	**141,322**	**205,652**	**195,060**
Illinois	25,647	10,679	78,304	53,592	53,427	50,555	87,414	70,987
Indiana	10,666	16,483	64,560	81,617	56,679	44,209	-	-
Iowa	874	1,544	10,548	7,025	-	-	-	-
Kansas	33	465	22,289	12,078	8,245	2,209	850	-
Kentucky	1,708	12	14,110	15,157	9,384	6,968	-	-
Michigan	8,527	4,215	85,576	74,584	9,818	8,328	84,071	86,356
Minnesota	13,134	12,545	31,428	26,182	11,279	10,756	18	6
Missouri	4,465	1,628	23,536	19,641	-	-	10,019	14,287
Nebraska	581	2,027	14,265	12,667	-	-	4,360	2,501
North Dakota	2,046	1,282	5,708	4,456	7,735	7,878	148	240
Ohio	3,495	832	92,653	77,083	10,890	6,048	18,772	20,683
Oklahoma	254	2,126	28,835	15,849	-	-	-	-
South Dakota	982	1,053	2,314	2,036	-	-	-	-
Tennessee	3,369	2,463	15,540	18,462	258	222	-	-
Wisconsin	10,977	13,957	31,436	29,932	5,920	4,148	-	-
PAD District III Total	**65,630**	**49,806**	**223,960**	**173,931**	**2,544**	**719**	**70,588**	**74,519**
Alabama	31,327	23,425	29,996	16,121	1,002	-	-	-
Arkansas	-	-	9,731	11,106	-	-	5,691	5,657
Louisiana	9,515	11,849	124,987	66,507	668	24	9,244	8,422
Mississippi	717	612	29,782	50,276	-	-	46,169	50,793
New Mexico	-	-	3,466	6,909	-	-	1,418	1,754
Texas	24,072	13,921	25,998	23,012	874	695	8,066	7,893
PAD District IV Total	**8,037**	**2,777**	**12,127**	**7,695**	**16,514**	**14,103**	**146**	**39**
Colorado	-	278	234	676	-	-	50	3
Idaho	300	1,235	2,198	892	-	-	-	-
Montana	388	602	1,277	64	8,141	7,641	-	-
Utah	2,089	636	5,683	5,647	5,013	5,510	-	-
Wyoming	5,260	25	2,736	415	3,360	952	96	36
PAD District V Total	**220,616**	**201,265**	**541,980**	**217,293**	**255,349**	**61,738**	**1,204,004**	**912,593**
Alaska	13,726	-	-	-	-	-	138	-
Arizona	41	-	1,386	271	-	-	1,101	3,352
California	36,488	35,113	191,576	106,945	197,241	19,806	668,488	368,484
Hawaii	145,693	150,434	6,055	5,640	39,586	30,772	496,185	516,208
Nevada	243	81	4,550	2,693	932	300	38,093	24,548
Oregon	14,681	12,341	68,722	16,917	2,445	126	-	-
Washington	9,746	3,296	269,690	84,827	15,145	10,733	-	-

See footnotes at end of table.

Table 5. Sales of Residual Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		Military		All Other		Total	
	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	32	39	6,354,536	7,191,689	125,318	92,229	58,880	31,838	21,719,226	21,829,300
PAD District I Total	-	-	1,410,904	1,381,741	96,270	79,609	4,719	208	13,083,707	13,400,532
Subdistrict IA Total	-	-	51,996	49,484	21,752	22,627	-	-	3,295,666	3,262,701
Connecticut	-	-	1,325	341	4,495	2,714	-	-	860,385	895,018
Maine	-	-	18,545	5,729	-	3,580	-	-	505,193	537,928
Massachusetts	-	-	24,651	42,742	5,281	12,607	-	-	1,553,993	1,485,516
New Hampshire	-	-	672	-	5,808	919	-	-	266,532	265,236
Rhode Island	-	-	6,803	671	6,169	2,497	-	-	99,031	70,020
Vermont	-	-	-	-	-	310	-	-	10,533	8,984
Subdistrict IB Total	-	-	829,599	758,807	43,317	35,854	4,205	-	6,577,171	6,769,789
Delaware	-	-	38,735	41,561	-	-	-	-	226,961	269,255
District of Columbia	-	-	-	-	455	1,853	-	-	10,298	7,917
Maryland	-	-	94,942	92,725	21,592	20,756	-	-	408,527	619,797
New Jersey	-	-	332,802	417,851	6,317	2,534	86	-	1,259,611	1,215,849
New York	-	-	123,456	17,095	12,143	7,724	4,119	-	3,779,323	3,722,257
Pennsylvania	-	-	239,664	189,574	2,810	2,986	-	-	892,451	934,713
Subdistrict IC Total	-	-	529,309	573,450	31,200	21,128	513	208	3,210,870	3,368,042
Florida	-	-	355,522	372,112	8,650	6,537	246	-	2,232,197	2,312,433
Georgia	-	-	18,274	29,423	1,628	1,706	-	-	133,323	123,654
North Carolina	-	-	8,913	27,619	9,504	3,693	267	208	271,232	257,706
South Carolina	-	-	29,307	25,874	4,892	5,558	-	-	145,052	126,694
Virginia	-	-	117,293	118,421	6,526	3,635	-	-	401,083	498,185
West Virginia	-	-	-	-	-	-	-	-	27,982	49,369
PAD District II Total	32	1	24,593	18,710	4,492	3,760	240	464	1,016,504	880,987
Illinois	-	-	15,351	2,671	142	-	39	-	260,322	188,483
Indiana	-	-	6,831	9,908	-	-	-	-	138,736	152,217
Iowa	-	1	-	-	-	8	-	-	11,423	8,578
Kansas	-	-	-	-	-	-	-	-	31,419	14,752
Kentucky	-	-	-	-	-	-	-	-	25,202	22,137
Michigan	-	-	1,315	5,397	-	-	-	62	189,307	178,943
Minnesota	11	-	306	73	-	-	185	130	56,361	49,692
Missouri	21	-	-	-	3,850	3,250	-	-	41,891	38,806
Nebraska	-	-	-	-	-	-	16	16	19,221	17,211
North Dakota	-	-	-	-	-	-	-	256	15,637	14,111
Ohio	-	-	524	451	-	-	-	-	126,333	105,097
Oklahoma	-	-	-	-	-	-	-	-	29,089	17,974
South Dakota	-	-	-	-	-	2	-	-	3,297	3,091
Tennessee	-	-	66	22	500	500	-	-	19,734	21,669
Wisconsin	-	-	200	187	-	-	-	-	48,533	48,224
PAD District III Total	-	-	2,167,731	2,535,626	3,918	1,077	20,886	-	2,555,259	2,835,679
Alabama	-	-	90,239	130,922	26	1,077	-	-	152,590	171,545
Arkansas	-	-	-	-	-	-	-	-	15,422	16,763
Louisiana	-	-	1,024,105	1,130,135	3,892	-	1,656	-	1,174,067	1,216,936
Mississippi	-	-	77,565	56,303	-	-	-	-	154,233	157,984
New Mexico	-	-	-	-	-	-	-	-	4,885	8,663
Texas	-	-	975,822	1,218,266	-	-	19,230	-	1,054,063	1,263,788
PAD District IV Total	-	19	-	-	-	-	40	225	36,865	24,858
Colorado	-	-	-	-	-	-	-	-	284	957
Idaho	-	-	-	-	-	-	-	-	2,498	2,127
Montana	-	-	-	-	-	-	-	197	9,806	8,504
Utah	-	9	-	-	-	-	-	-	12,785	11,802
Wyoming	-	11	-	-	-	-	40	28	11,492	1,467
PAD District V Total	-	19	2,751,307	3,255,612	20,639	7,783	32,996	30,942	5,026,891	4,687,244
Alaska	-	-	6,199	5,530	-	-	-	-	20,063	5,530
Arizona	-	-	-	-	-	-	-	-	2,528	3,623
California	-	-	2,070,421	2,297,366	6,538	-	-	-	3,170,751	2,827,714
Hawaii	-	-	69,524	101,297	2,913	3,196	32,748	30,877	792,704	838,424
Nevada	-	-	-	-	-	-	-	-	43,818	27,622
Oregon	-	19	186,730	222,279	215	-	36	65	272,829	251,747
Washington	-	-	418,433	629,140	10,973	4,587	211	-	724,198	732,584

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.

Table 6. Sales of Kerosene by End Use, 1988 and 1989
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1988	1989	1988	1989	1988	1989
U.S. Total	**1,063,187**	**868,728**	**193,476**	**204,258**	**117,858**	**124,003**
PAD District I Total	**871,767**	**693,220**	**97,284**	**111,793**	**85,319**	**90,544**
Subdistrict IA Total	**97,763**	**90,905**	**17,057**	**17,623**	**15,126**	**6,127**
Connecticut	16,911	12,034	2,790	6,084	10,482	3,910
Maine	32,951	33,753	6,692	3,940	745	365
Massachusetts	12,581	11,345	2,964	2,708	1,731	1,552
New Hampshire	18,378	19,709	1,831	2,276	292	84
Rhode Island	4,022	2,399	115	192	0	9
Vermont	12,920	11,665	2,665	2,422	1,875	206
Subdistrict IB Total	**385,665**	**292,672**	**35,217**	**50,807**	**50,388**	**62,963**
Delaware	12,737	11,314	1,128	260	103	317
District of Columbia	355	456	179	2,010	12	-
Maryland	55,287	34,145	2,659	3,726	4,468	2,457
New Jersey	19,809	23,960	4,881	11,068	4,802	25,937
New York	174,851	116,381	8,709	21,813	31,438	27,526
Pennsylvania	122,626	106,415	17,663	11,929	9,566	6,726
Subdistrict IC Total	**388,338**	**309,643**	**45,009**	**43,363**	**19,804**	**21,454**
Florida	27,477	16,002	17,557	14,971	1,726	3,911
Georgia	8,637	7,440	890	3,059	1,551	2,226
North Carolina	171,310	126,513	10,794	7,407	7,788	5,025
South Carolina	53,779	49,795	1,089	2,965	4,690	4,468
Virginia	110,432	95,404	11,350	11,771	2,248	3,307
West Virginia	16,702	14,488	3,330	3,191	1,802	2,517
PAD District II Total	**170,181**	**154,844**	**37,546**	**35,892**	**20,385**	**20,089**
Illinois	9,100	8,718	2,481	2,651	1,884	2,501
Indiana	21,781	22,345	3,294	1,668	3,096	2,295
Iowa	3,276	1,738	211	242	172	133
Kansas	844	750	402	688	76	293
Kentucky	27,080	24,487	6,019	6,875	6,593	6,990
Michigan	16,787	16,455	785	2,367	2,165	2,206
Minnesota	4,828	11,324	200	171	47	41
Missouri	2,442	2,881	683	519	250	261
Nebraska	677	344	81	122	41	22
North Dakota	327	415	46	22	0	5
Ohio	52,859	36,693	11,099	10,088	4,099	3,973
Oklahoma	1,047	812	1,799	3,700	244	357
South Dakota	575	359	10	12	6	1
Tennessee	26,311	25,858	10,157	6,502	1,586	795
Wisconsin	2,247	1,665	280	266	126	216
PAD District III Total	**11,087**	**9,422**	**8,799**	**19,984**	**6,806**	**9,761**
Alabama	5,431	3,412	532	609	354	289
Arkansas	1,069	1,214	404	80	377	459
Louisiana	485	1,355	4,639	1,472	1,539	1,995
Mississippi	1,173	950	153	204	1,595	453
New Mexico	480	424	1,307	600	250	1,831
Texas	2,449	2,067	1,735	17,020	2,691	4,734
PAD District IV Total	**2,055**	**2,154**	**1,017**	**6,867**	**1,345**	**356**
Colorado	1,360	1,743	593	6,593	649	214
Idaho	306	99	54	17	12	8
Montana	59	42	1	4	0	-
Utah	265	223	202	172	547	38
Wyoming	64	47	165	81	136	95
PAD District V Total	**8,098**	**9,088**	**48,860**	**29,722**	**4,003**	**3,253**
Alaska	139	31	7,919	34	5	4
Arizona	134	18	26	107	2,128	1,881
California	4,242	4,538	3,585	1,737	1,132	904
Hawaii	0	0	11	10	6	5
Nevada	704	605	351	199	83	132
Oregon	400	1,608	372	304	58	102
Washington	2,479	2,288	36,495	27,332	591	225

See footnotes at end of table.

Table 6. Sales of Kerosene by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Farm		All Other		Total	
	1988	1989	1988	1989	1988	1989
U.S. Total	**33,426**	**30,081**	**70,370**	**64,598**	**1,478,316**	**1,291,668**
PAD District I Total	**20,653**	**16,361**	**51,824**	**49,553**	**1,126,852**	**961,472**
Subdistrict IA Total	**2,462**	**2,146**	**2,153**	**8,001**	**134,561**	**124,802**
Connecticut	22	10	202	6,137	30,407	28,176
Maine	791	1,144	792	530	41,970	39,732
Massachusetts	11	89	288	768	17,575	16,461
New Hampshire	58	54	99	457	20,658	22,581
Rhode Island	1	1	692	36	4,830	2,638
Vermont	1,580	848	80	72	19,123	15,213
Subdistrict IB Total	**6,693**	**8,711**	**35,221**	**36,555**	**513,185**	**451,707**
Delaware	382	16	4	35	14,353	11,943
District of Columbia	–	–	63	–	608	2,465
Maryland	363	1,743	1,302	189	64,078	42,261
New Jersey	32	7	28,453	3,584	57,977	64,557
New York	4,079	4,791	1,983	30,988	221,061	201,500
Pennsylvania	1,836	2,153	3,416	1,758	155,107	128,932
Subdistrict IC Total	**11,505**	**5,504**	**14,450**	**4,998**	**479,106**	**384,963**
Florida	54	73	1,629	842	48,443	35,799
Georgia	1,883	55	1,184	409	14,147	13,189
North Carolina	5,667	1,787	6,164	898	201,723	141,630
South Carolina	1,001	1,238	1,756	1,428	62,315	59,894
Virginia	2,411	1,500	1,599	1,077	128,040	113,059
West Virginia	488	852	2,117	345	24,439	21,392
PAD District II Total	**9,917**	**10,724**	**10,770**	**5,842**	**248,799**	**227,389**
Illinois	843	536	404	999	14,711	15,405
Indiana	748	830	978	169	29,896	27,307
Iowa	725	552	100	313	4,484	2,978
Kansas	320	490	115	124	1,758	2,345
Kentucky	1,185	871	146	388	41,022	39,611
Michigan	178	295	13	379	19,926	21,703
Minnesota	1,215	1,998	149	58	6,439	13,592
Missouri	180	381	588	742	4,143	4,784
Nebraska	353	417	2,037	11	3,189	915
North Dakota	86	15	164	11	623	468
Ohio	2,978	3,235	2,162	2,151	73,197	56,140
Oklahoma	433	93	194	60	3,716	5,022
South Dakota	180	198	41	33	811	602
Tennessee	318	404	3,592	330	41,964	33,890
Wisconsin	175	407	90	73	2,918	2,627
PAD District III Total	**1,442**	**1,552**	**7,338**	**8,233**	**35,442**	**48,952**
Alabama	108	27	420	412	6,845	4,748
Arkansas	75	135	216	66	2,142	1,954
Louisiana	46	352	4,120	1,884	10,829	7,057
Mississippi	771	439	10	673	3,702	2,719
New Mexico	21	41	73	64	2,130	2,960
Texas	421	558	2,499	5,135	9,794	29,514
PAD District IV Total	**1,159**	**781**	**69**	**360**	**5,645**	**10,517**
Colorado	969	622	13	329	3,585	9,501
Idaho	26	22	4	5	402	151
Montana	102	91	0	4	163	142
Utah	37	23	17	10	1,069	466
Wyoming	25	22	35	12	427	257
PAD District V Total	**248**	**664**	**369**	**610**	**61,578**	**43,337**
Alaska	–	–	13	12	8,076	81
Arizona	9	17	42	63	2,340	2,086
California	112	501	291	392	9,461	8,072
Hawaii	0	0	–	–	17	16
Nevada	21	43	10	116	1,170	1,095
Oregon	6	53	8	17	844	2,083
Washington	99	50	5	9	39,670	29,903

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1988 and 1989, (DOE/EIA-0340(88)/1 - (89)/1).

Table 7. Sales for Residential Use: Distillate Fuel Oil and Kerosene, 1989
(Thousand Gallons)

Destination	Distillate Fuel Oil			Kerosene
	No. 1	No. 2	Total	
U.S. Total	**324,076**	**8,324,553**	**8,648,629**	**868,728**
PAD District I Total	**45,910**	**6,855,779**	**6,901,689**	**693,220**
Subdistrict IA Total	**12,278**	**2,405,608**	**2,417,886**	**90,905**
Connecticut	1,034	685,801	686,835	12,034
Maine	7,804	266,303	274,107	33,753
Massachusetts	470	990,640	991,111	11,345
New Hampshire	1,210	206,754	207,964	19,709
Rhode Island	1,386	152,055	153,441	2,399
Vermont	375	104,055	104,429	11,665
Subdistrict IB Total	**17,325**	**3,813,929**	**3,831,255**	**292,672**
Delaware	149	63,636	63,785	11,314
District of Columbia	-	7,029	7,029	456
Maryland	1,049	247,029	248,079	34,145
New Jersey	51	768,760	768,811	23,960
New York	8,814	1,670,512	1,679,326	116,381
Pennsylvania	7,262	1,056,963	1,064,225	106,415
Subdistrict IC Total	**16,307**	**636,242**	**652,549**	**309,643**
Florida	478	17,039	17,517	16,002
Georgia	70	12,813	12,884	7,440
North Carolina	8,113	217,629	225,742	126,513
South Carolina	2,034	59,835	61,869	49,795
Virginia	4,187	299,248	303,435	95,404
West Virginia	1,425	29,678	31,102	14,488
PAD District II Total	**227,232**	**1,176,837**	**1,404,069**	**154,844**
Illinois	12,595	67,378	79,973	8,718
Indiana	24,433	92,628	117,061	22,345
Iowa	9,833	44,061	53,894	1,738
Kansas	544	1,077	1,620	750
Kentucky	3,041	34,655	37,696	24,487
Michigan	38,932	202,459	241,391	16,455
Minnesota	48,289	179,108	227,397	11,324
Missouri	5,272	18,695	23,967	2,881
Nebraska	6,321	6,277	12,598	344
North Dakota	8,556	37,636	46,192	415
Ohio	24,282	207,084	231,366	36,693
Oklahoma	1	20	20	812
South Dakota	13,141	32,405	45,547	359
Tennessee	161	12,213	12,373	25,858
Wisconsin	31,831	241,140	272,972	1,665
PAD District III Total	**101**	**2,130**	**2,231**	**9,422**
Alabama	14	1,041	1,055	3,412
Arkansas	-	23	23	1,214
Louisiana	19	218	237	1,355
Mississippi	41	159	200	950
New Mexico	21	302	323	424
Texas	7	387	394	2,067
PAD District IV Total	**12,565**	**35,826**	**48,390**	**2,154**
Colorado	723	986	1,709	1,743
Idaho	4,278	18,565	22,843	99
Montana	6,907	8,083	14,991	42
Utah	361	7,126	7,488	223
Wyoming	296	1,065	1,361	47
PAD District V Total	**38,268**	**253,961**	**292,250**	**9,088**
Alaska	20,215	46,490	66,705	31
Arizona	129	167	296	18
California	3,125	7,452	10,578	4,538
Hawaii	4	14	17	0
Nevada	1,275	9,803	11,078	605
Oregon	6,079	76,909	82,988	1,608
Washington	7,441	113,146	120,587	2,288

Dashes (-) = No data reported.
Note: Totals may not equal sum of components due to independent rounding.
Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.
• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 8. Sales for Commercial Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Distillate Fuel Oil						Residual Fuel Oil	Kerosene
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate		
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total				
U.S. Total	128,371	2,103,013	1,515,732	3,618,745	529,989	4,277,105	1,792,634	204,258
PAD District I Total	**37,932**	**1,692,739**	**618,723**	**2,311,463**	**505,475**	**2,854,869**	**1,467,476**	**111,793**
Subdistrict IA Total	**6,272**	**519,441**	**92,556**	**611,997**	**129,286**	**747,555**	**389,952**	**17,623**
Connecticut	1,615	117,061	20,393	137,454	26,385	165,454	72,392	6,084
Maine	1,353	64,688	5,818	70,506	6,382	78,242	69,498	3,940
Massachusetts	1,999	261,552	31,138	292,690	79,433	374,122	180,430	2,708
New Hampshire	11	29,409	18,149	47,559	9,705	57,275	22,345	2,276
Rhode Island	1,176	26,410	4,946	31,357	5,065	37,598	21,382	192
Vermont	118	20,319	12,112	32,431	2,316	34,865	3,905	2,422
Subdistrict IB Total	**28,674**	**939,963**	**294,408**	**1,234,371**	**367,497**	**1,630,541**	**946,321**	**50,807**
Delaware	334	8,501	3,082	11,583	2,467	14,385	10,931	260
District of Columbia	0	17,540	1,836	19,377	6,683	26,060	6,051	2,010
Maryland	1,399	69,886	16,470	86,356	8,996	96,750	60,443	3,726
New Jersey	7,575	244,745	67,919	312,664	73,986	394,225	83,931	11,068
New York	8,888	392,057	89,553	481,609	256,421	746,919	742,287	21,813
Pennsylvania	10,478	207,234	115,547	322,782	18,944	352,203	42,677	11,929
Subdistrict IC Total	**2,986**	**233,335**	**231,759**	**465,095**	**8,692**	**476,773**	**131,203**	**43,363**
Florida	1,001	39,009	94,111	133,120	-	134,121	92,795	14,971
Georgia	115	20,125	26,598	46,722	218	47,056	12,102	3,059
North Carolina	957	67,244	43,497	110,741	1,811	113,509	10,588	7,407
South Carolina	72	22,926	20,846	43,771	830	44,673	1,746	2,965
Virginia	107	69,314	38,360	107,674	5,750	113,531	9,852	11,771
West Virginia	734	14,719	8,347	23,066	83	23,883	4,119	3,191
PAD District II Total	**58,670**	**255,784**	**377,422**	**633,207**	**1,922**	**693,799**	**71,309**	**35,892**
Illinois	4,596	24,584	41,989	66,573	139	71,308	10,679	2,651
Indiana	5,920	24,132	28,374	52,506	12	58,438	16,483	1,668
Iowa	2,106	8,665	14,007	22,672	-	24,778	1,544	242
Kansas	1,340	4,780	10,750	15,530	-	16,870	465	688
Kentucky	4,085	16,696	12,064	28,760	-	32,845	12	6,875
Michigan	11,621	36,848	55,888	92,736	762	105,118	4,215	2,367
Minnesota	7,841	20,180	23,715	43,895	549	52,285	12,545	171
Missouri	2,594	11,838	32,414	44,252	5	46,851	1,628	519
Nebraska	1,535	4,454	5,531	9,984	-	11,519	2,027	122
North Dakota	1,142	4,673	3,588	8,261	-	9,402	1,282	22
Ohio	3,852	42,365	38,857	81,222	276	85,349	832	10,088
Oklahoma	2,182	9,517	20,565	30,082	-	32,264	2,126	3,700
South Dakota	1,822	4,203	5,123	9,326	-	11,148	1,053	12
Tennessee	1,237	5,146	27,231	32,378	-	33,615	2,463	6,502
Wisconsin	6,797	37,703	57,326	95,029	180	102,007	13,957	266
PAD District III Total	**2,476**	**46,657**	**189,453**	**236,109**	**76**	**238,661**	**49,806**	**19,984**
Alabama	27	11,258	26,442	37,700	-	37,727	23,425	609
Arkansas	4	5,248	8,263	13,511	-	13,515	-	80
Louisiana	137	4,774	21,056	25,830	-	25,967	11,849	1,472
Mississippi	19	8,344	17,911	26,255	-	26,273	612	204
New Mexico	215	96	15,233	15,329	-	15,544	-	600
Texas	2,074	16,937	100,548	117,485	76	119,634	13,921	17,020
PAD District IV Total	**8,240**	**9,929**	**55,346**	**65,275**	**151**	**73,666**	**2,777**	**6,867**
Colorado	2,153	450	19,451	19,901	-	22,055	278	6,593
Idaho	1,969	2,824	9,353	12,177	111	14,257	1,235	17
Montana	1,272	2,933	4,098	7,031	40	8,343	602	4
Utah	1,145	2,818	14,833	17,651	-	18,796	636	172
Wyoming	1,701	903	7,611	8,515	-	10,216	25	81
PAD District V Total	**21,054**	**97,904**	**274,786**	**372,691**	**22,365**	**416,111**	**201,265**	**29,722**
Alaska	7,931	17,306	10,902	28,208	99	36,238	-	34
Arizona	2,024	1,415	13,006	14,421	-	16,445	-	107
California	7,916	29,638	157,244	186,882	7,966	202,765	35,113	1,737
Hawaii	1,240	2,089	16,808	18,897	1,629	21,766	150,434	10
Nevada	355	4,165	12,114	16,279	-	16,634	81	199
Oregon	716	22,516	18,364	40,880	5,631	47,226	12,341	304
Washington	872	20,773	46,351	67,124	7,040	75,037	3,296	27,332

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 9. Sales for Industrial Use and for Oil Company Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Industrial Use								Oil Company Use	
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate	Residual Fuel Oil	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total						
U.S. Total	**75,853**	**772,239**	**1,730,405**	**2,502,644**	**147,277**	**2,725,774**	**2,665,438**	**124,003**	**683,683**	**374,459**
PAD District I Total	**8,556**	**449,900**	**420,685**	**870,585**	**94,750**	**973,890**	**1,816,158**	**90,544**	**44,067**	**156,577**
Subdistrict IA Total	**436**	**150,228**	**25,229**	**175,457**	**33,059**	**208,952**	**516,977**	**6,127**	**2,106**	**964**
Connecticut	1	28,039	5,812	33,851	11,071	44,923	78,299	3,910	329	964
Maine	240	24,610	3,973	28,582	2,665	31,487	222,110	365	463	-
Massachusetts	11	77,423	7,317	84,740	12,604	97,355	159,828	1,552	877	-
New Hampshire	4	10,632	1,713	12,345	2,482	14,831	28,737	84	123	-
Rhode Island	-	3,042	5,279	8,321	2,294	10,615	23,233	9	287	-
Vermont	181	6,482	1,135	7,617	1,944	9,742	4,769	206	27	-
Subdistrict IB Total	**3,380**	**162,553**	**157,342**	**319,895**	**44,910**	**368,184**	**598,962**	**62,963**	**36,606**	**150,828**
Delaware	16	3,017	6,785	9,802	452	10,270	27,018	317	309	18,441
District of Columbia	-	16	14	29	93	122	13	-	-	-
Maryland	765	15,458	15,339	30,797	1,512	33,073	43,144	2,457	1,113	2,910
New Jersey	82	41,365	20,833	62,198	18,219	80,499	185,214	25,937	4,869	6,617
New York	114	39,639	20,022	59,662	11,553	71,328	201,398	27,526	11,822	2,694
Pennsylvania	2,403	63,058	94,350	157,407	13,081	172,892	142,175	6,726	18,492	120,167
Subdistrict IC Total	**4,739**	**137,119**	**238,114**	**375,233**	**16,781**	**396,754**	**700,220**	**21,454**	**5,355**	**4,786**
Florida	111	5,635	39,434	45,069	756	45,937	134,636	3,911	1,125	96
Georgia	211	13,183	32,947	46,130	3,870	50,211	78,820	2,226	321	992
North Carolina	318	57,451	31,362	88,813	4,108	93,239	213,468	5,025	93	2,132
South Carolina	55	12,142	14,707	26,849	1,682	28,586	93,020	4,468	344	496
Virginia	619	35,081	43,646	78,727	5,743	85,089	135,027	3,307	1,251	1,070
West Virginia	3,425	13,627	76,018	89,644	622	93,691	45,250	2,517	2,220	-
PAD District II Total	**36,594**	**221,310**	**516,037**	**737,347**	**20,600**	**794,541**	**450,361**	**20,089**	**72,953**	**141,322**
Illinois	4,193	22,411	64,514	86,925	45	91,162	53,592	2,501	7,323	50,555
Indiana	4,852	16,156	66,893	83,049	14,387	102,287	81,617	2,295	1,121	44,209
Iowa	1,576	7,399	7,239	14,638	-	16,214	7,025	133	85	-
Kansas	931	3,158	8,442	11,601	-	12,531	12,078	293	9,667	2,209
Kentucky	2,564	47,001	118,899	165,900	123	168,586	15,157	6,990	823	6,968
Michigan	1,935	22,817	34,873	57,690	714	60,339	74,584	2,206	1,630	8,328
Minnesota	8,789	26,282	9,111	35,393	155	44,337	26,182	41	631	10,756
Missouri	3,765	10,848	25,208	36,057	456	40,278	19,641	261	380	-
Nebraska	504	2,144	3,301	5,445	131	6,080	12,667	22	27	-
North Dakota	1,930	5,300	14,246	19,546	-	21,476	4,456	5	5,326	7,878
Ohio	1,615	34,030	95,551	129,582	3,033	134,230	77,083	3,973	7,414	6,048
Oklahoma	352	4,773	21,721	26,493	-	26,845	15,849	357	37,330	-
South Dakota	909	1,814	3,475	5,289	-	6,198	2,036	1	14	-
Tennessee	59	5,122	31,435	36,557	1,558	38,175	18,462	795	664	222
Wisconsin	2,621	12,054	11,129	23,182	-	25,803	29,932	216	518	4,148
PAD District III Total	**1,846**	**34,394**	**279,158**	**313,552**	**1,296**	**316,694**	**173,931**	**9,761**	**494,433**	**719**
Alabama	545	6,766	52,122	58,887	-	59,432	16,121	289	7,313	-
Arkansas	8	2,106	14,596	16,701	56	16,765	11,106	459	3,594	-
Louisiana	-	707	16,318	17,025	700	17,725	66,507	1,995	240,380	24
Mississippi	424	4,175	12,103	16,279	540	17,242	50,276	453	13,504	-
New Mexico	351	576	31,439	32,015	-	32,365	6,909	1,831	8,437	-
Texas	519	20,064	152,581	172,645	-	173,164	23,012	4,734	221,206	695
PAD District IV Total	**20,276**	**26,954**	**145,501**	**172,455**	**-**	**192,731**	**7,695**	**356**	**20,389**	**14,103**
Colorado	3,164	17,019	14,192	31,211	-	34,375	676	214	1,283	-
Idaho	2,508	4,614	22,210	26,824	-	29,332	892	8	8	-
Montana	4,692	736	39,300	40,036	-	44,728	64	-	1,066	7,641
Utah	2,067	3,014	26,227	29,241	-	31,308	5,647	38	4,347	5,510
Wyoming	7,844	1,571	43,572	45,144	-	52,988	415	95	13,686	952
PAD District V Total	**8,581**	**39,681**	**369,024**	**408,705**	**30,631**	**447,917**	**217,293**	**3,253**	**51,841**	**61,738**
Alaska	2,062	3,525	26,322	29,847	5,221	37,130	-	4	28,599	-
Arizona	15	964	60,518	61,482	818	62,315	271	1,881	70	-
California	639	9,683	142,763	152,446	23,001	176,086	106,945	904	20,300	19,806
Hawaii	15	542	3,723	4,265	-	4,280	5,640	5	966	30,772
Nevada	4,393	1,462	93,474	94,937	78	99,407	2,693	132	336	300
Oregon	600	10,409	17,448	27,857	211	28,868	16,917	102	292	126
Washington	658	13,095	24,776	37,871	1,301	39,930	84,827	225	1,279	10,733

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 10. Sales for Farm Use: Distillate Fuel Oil and Kerosene; Sales for Electric Utility Use: Distillate Fuel Oil and Residual Fuel Oil, 1989

(Thousand Gallons)

Destination	Farm				Electric	
	Diesel	Other Distillate	Total Distillate	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	**3,185,827**	**174,266**	**3,360,092**	**30,081**	**887,599**	**9,680,974**
PAD District I Total	**389,762**	**67,875**	**457,637**	**16,361**	**516,159**	**8,498,763**
Subdistrict IA Total	**12,618**	**9,203**	**21,820**	**2,146**	**32,525**	**2,282,698**
Connecticut	1,722	1,175	2,897	10	4,431	740,308
Maine	3,822	1,397	5,219	1,144	2,398	217,011
Massachusetts	1,164	2,182	3,345	89	20,113	1,089,908
New Hampshire	853	1,401	2,254	54	2,720	213,234
Rhode Island	113	116	229	1	1,613	22,237
Vermont	4,944	2,931	7,876	848	1,248	-
Subdistrict IB Total	**112,012**	**53,848**	**165,860**	**8,711**	**330,245**	**4,279,018**
Delaware	5,580	790	6,369	16	11,774	171,304
District of Columbia	-	-	-	-	59,210	-
Maryland	23,924	3,573	27,497	1,743	52,289	399,819
New Jersey	14,039	7,933	21,972	7	45,090	519,702
New York	33,923	22,256	56,179	4,791	93,882	2,751,059
Pennsylvania	34,547	19,296	53,843	2,153	67,999	437,134
Subdistrict IC Total	**265,132**	**4,824**	**269,956**	**5,504**	**153,389**	**1,937,047**
Florida	54,597	45	54,642	73	65,510	1,706,257
Georgia	95,368	6	95,374	55	13,291	610
North Carolina	43,516	1,989	45,504	1,787	18,444	-
South Carolina	30,999	492	31,491	1,238	9,773	-
Virginia	35,788	1,456	37,243	1,500	27,883	230,180
West Virginia	4,864	837	5,702	852	18,488	-
PAD District II Total	**1,586,957**	**91,687**	**1,678,844**	**10,724**	**154,963**	**195,050**
Illinois	191,670	13,848	205,518	536	20,280	70,987
Indiana	91,895	9,537	101,433	830	23,953	-
Iowa	168,551	9,263	177,815	552	3,975	-
Kansas	156,246	3,280	159,526	490	6,144	-
Kentucky	44,220	2,289	46,509	871	14,074	-
Michigan	68,652	3,434	72,086	295	31,072	86,356
Minnesota	149,400	6,534	155,934	1,998	5,252	6
Missouri	93,926	1,646	95,572	381	7,915	14,287
Nebraska	172,902	2,567	175,469	417	3,211	2,501
North Dakota	102,035	6,271	108,306	15	3,540	240
Ohio	81,793	8,351	90,144	3,235	17,498	20,683
Oklahoma	49,546	-	49,546	93	446	-
South Dakota	80,500	9,256	89,756	198	709	-
Tennessee	47,682	26	47,708	404	2,835	-
Wisconsin	87,938	15,585	103,523	407	14,060	-
PAD District III Total	**532,657**	**8,696**	**541,353**	**1,552**	**94,515**	**74,519**
Alabama	43,235	892	44,127	27	8,627	-
Arkansas	67,178	201	67,379	135	9,110	5,657
Louisiana	66,962	159	67,122	352	16,759	8,422
Mississippi	97,462	7	97,469	439	4,173	50,793
New Mexico	12,381	-	12,381	41	5,225	1,754
Texas	245,439	7,436	252,875	558	50,623	7,893
PAD District IV Total	**188,165**	**3,059**	**191,225**	**781**	**15,576**	**39**
Colorado	52,630	655	53,285	622	4,246	3
Idaho	66,216	336	66,552	22	22	-
Montana	51,229	1,277	52,506	91	2,100	-
Utah	9,108	305	9,413	23	3,532	-
Wyoming	8,982	486	9,469	22	5,676	36
PAD District V Total	**488,286**	**2,749**	**491,034**	**664**	**106,386**	**912,593**
Alaska	269	-	269	-	18,061	-
Arizona	33,116	-	33,116	17	3,605	3,352
California	316,145	10	316,155	501	16,223	368,484
Hawaii	10,478	1,171	11,649	0	61,077	516,208
Nevada	5,283	146	5,428	43	2,171	24,548
Oregon	51,458	73	51,532	53	4,412	-
Washington	71,537	1,348	72,885	50	837	-

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 11. Sales for Transportation Use: Distillate Fuel Oil and Residual Fuel Oil, 1989

(Thousand Gallons)

Destination	Railroad Use		Vessel Bunkering		On-Highway Diesel	Total Transportation Use	
	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	**3,240,649**	**39**	**2,258,465**	**7,191,689**	**21,131,692**	**26,630,806**	**7,191,727**
PAD District I Total	**551,268**	**-**	**521,110**	**1,381,741**	**6,752,738**	**7,825,116**	**1,381,741**
Subdistrict IA Total	**35,062**	**-**	**67,894**	**49,484**	**827,956**	**930,912**	**49,484**
Connecticut	5,374	-	2,249	341	257,361	264,983	341
Maine	6,377	-	14,097	5,729	139,908	160,382	5,729
Massachusetts	19,591	-	43,961	42,742	271,944	335,496	42,742
New Hampshire	36	-	387	-	59,561	59,984	-
Rhode Island	530	-	6,778	671	52,932	60,240	671
Vermont	3,154	-	422	-	46,250	49,826	-
Subdistrict IB Total	**178,330**	**-**	**191,904**	**758,807**	**2,571,926**	**2,942,160**	**758,807**
Delaware	1,030	-	3,746	41,561	74,089	78,866	41,561
District of Columbia	13,191	-	25	-	23,064	36,280	-
Maryland	40,728	-	10,012	92,725	351,150	401,890	92,725
New Jersey	62,243	-	136,992	417,851	453,482	652,717	417,851
New York	17,457	-	11,409	17,095	754,276	783,142	17,095
Pennsylvania	43,679	-	29,720	189,574	915,865	989,265	189,574
Subdistrict IC Total	**337,876**	**-**	**261,312**	**573,450**	**3,352,856**	**3,952,044**	**573,450**
Florida	84,939	-	103,032	372,112	899,369	1,087,341	372,112
Georgia	65,462	-	40,099	29,423	838,847	944,408	29,423
North Carolina	36,898	-	9,930	27,619	614,485	661,314	27,619
South Carolina	30,723	-	6,186	25,874	302,614	339,523	25,874
Virginia	93,726	-	29,071	118,421	537,569	660,366	118,421
West Virginia	26,127	-	72,993	-	159,972	259,093	-
PAD District II Total	**1,326,339**	**1**	**458,790**	**18,710**	**7,253,324**	**9,038,453**	**18,710**
Illinois	138,438	-	39,678	2,671	839,968	1,018,084	2,671
Indiana	225,525	-	11,125	9,908	784,441	1,021,091	9,908
Iowa	33,695	1	2,896	-	349,044	385,635	1
Kansas	168,700	-	-	-	303,893	472,593	-
Kentucky	115,661	-	118,211	-	692,215	926,087	-
Michigan	42,376	-	5,491	5,397	528,906	576,773	5,397
Minnesota	39,159	-	3,221	73	331,625	374,005	73
Missouri	34,624	-	53,014	-	641,680	729,317	-
Nebraska	121,912	-	80	-	208,258	330,250	-
North Dakota	36,188	-	-	-	90,544	126,732	-
Ohio	122,714	-	10,171	451	960,195	1,093,081	451
Oklahoma	77,737	-	321	-	394,174	472,232	-
South Dakota	2,357	-	-	-	91,221	93,578	-
Tennessee	61,730	-	210,942	22	587,396	860,068	22
Wisconsin	105,521	-	3,641	187	449,764	558,926	187
PAD District III Total	**636,216**	**-**	**730,531**	**2,535,626**	**3,221,237**	**4,587,983**	**2,535,626**
Alabama	66,745	-	102,207	130,922	544,882	713,835	130,922
Arkansas	34,945	-	487	-	395,236	430,669	-
Louisiana	78,426	-	336,513	1,130,135	385,621	800,560	1,130,135
Mississippi	17,760	-	55,534	56,303	302,523	375,818	56,303
New Mexico	51,784	-	-	-	205,916	257,700	-
Texas	386,555	-	235,789	1,218,266	1,387,059	2,009,402	1,218,266
PAD District IV Total	**310,192**	**19**	**131**	**-**	**734,904**	**1,045,226**	**19**
Colorado	87,970	-	62	-	185,519	273,551	-
Idaho	19,585	-	69	-	117,246	136,900	-
Montana	58,855	-	-	-	119,503	178,358	-
Utah	34,590	9	-	-	125,184	159,774	9
Wyoming	109,191	11	-	-	187,452	296,643	11
PAD District V Total	**416,635**	**19**	**547,903**	**3,255,612**	**3,169,489**	**4,134,027**	**3,255,631**
Alaska	4,927	-	138,221	5,530	96,446	239,595	5,530
Arizona	8,288	-	-	-	314,671	322,959	-
California	216,816	-	208,063	2,297,366	1,913,647	2,338,526	2,297,366
Hawaii	17	-	66,679	101,297	23,717	110,413	101,297
Nevada	23,341	-	-	-	131,055	154,396	-
Oregon	85,764	19	35,865	222,279	311,843	433,473	222,298
Washington	77,481	-	79,074	629,140	378,110	534,665	629,140

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• On-Highway Diesel data are Federal Highway Administation statistics of highway special fuels use.

Table 12. Sales for Military, Off-Highway, and All Other Uses: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Military				Off-Highway Diesel Distillate Fuel Oil			All Other		
	Diesel	Other Distillate	Total Distillate	Residual Fuel Oil	Construction	Other	Total	Distillate Fuel Oil	Residual Fuel Oil	Kerosene
U.S. Total	774,168	78,671	852,839	92,229	1,504,932	184,719	1,689,651	32,719	31,838	64,598
PAD District I Total	97,901	64,609	162,510	79,609	488,476	42,203	530,679	12,998	208	49,553
Subdistrict IA Total	12,552	4,809	17,361	22,627	69,375	7,073	76,448	687	-	8,001
Connecticut	73	629	702	2,714	21,475	37	21,512	551	-	6,137
Maine	3,130	300	3,431	3,580	10,398	4,357	14,755	45	-	530
Massachusetts	1,456	829	2,285	12,607	20,927	17	20,943	-	-	768
New Hampshire	350	1,422	1,772	919	7,399	1,422	8,821	-	-	457
Rhode Island	7,461	1,446	8,907	2,497	3,842	1	3,844	91	-	36
Vermont	81	183	264	310	5,334	1,238	6,572	-	-	72
Subdistrict IB Total	31,463	32,487	63,949	35,854	197,196	10,809	208,065	3,838	-	36,555
Delaware	-	98	98	-	4,827	3	4,830	-	-	35
District of Columbia	8	3,436	3,444	1,853	36	-	36	-	-	-
Maryland	16,907	8,679	25,677	20,756	35,675	1,300	36,975	2,954	-	189
New Jersey	4,742	5,747	10,489	2,534	58,193	2,104	60,297	55	-	3,584
New York	6,820	5,147	11,967	7,724	39,786	6,539	46,325	4	-	30,988
Pennsylvania	2,895	9,379	12,274	2,986	58,679	922	59,601	825	-	1,758
Subdistrict IC Total	53,887	27,314	81,200	21,128	221,904	24,282	246,186	8,474	208	4,998
Florida	23,327	15	23,342	6,537	71,415	4,027	75,442	1,503	-	842
Georgia	9,981	541	10,522	1,706	40,588	3,301	43,889	1,851	-	409
North Carolina	7,814	1,146	8,960	3,693	29,034	1,607	30,641	2,568	208	898
South Carolina	2,389	550	2,939	5,558	18,120	12,460	30,580	1,044	-	1,428
Virginia	10,248	25,003	35,251	3,635	40,853	1,359	42,212	1,493	-	1,077
West Virginia	128	59	187	-	21,894	1,508	23,402	15	-	345
PAD District II Total	46,933	6,767	53,700	3,760	387,145	22,921	410,067	16,777	464	5,842
Illinois	4,666	671	5,337	-	44,767	478	45,245	194	-	999
Indiana	7,760	154	7,914	-	33,763	1,738	35,500	3,397	-	169
Iowa	296	31	327	8	10,364	1,197	11,561	2,260	-	313
Kansas	905	125	1,030	-	13,091	1,791	14,882	1,928	-	124
Kentucky	5,482	1,047	6,529	-	25,486	793	26,279	23	-	388
Michigan	3,176	615	3,791	-	52,963	1,732	54,695	2,101	62	379
Minnesota	2,190	255	2,445	-	28,472	3,050	31,523	2,190	130	58
Missouri	3,860	2,157	6,017	2,250	24,671	1,231	25,902	1,403	-	742
Nebraska	1,190	91	1,281	-	20,283	299	20,582	-	16	11
North Dakota	1,608	12	1,620	-	4,749	683	5,433	234	256	11
Ohio	10,159	199	10,358	-	32,705	986	33,691	404	-	2,151
Oklahoma	1,324	472	1,796	-	24,883	1,680	26,563	274	-	60
South Dakota	585	31	616	2	6,676	120	6,796	651	-	33
Tennessee	2,772	583	3,355	500	29,644	2,428	32,072	783	-	330
Wisconsin	958	324	1,282	-	34,626	4,715	39,341	935	-	73
PAD District III Total	323,398	74	323,472	1,077	247,229	28,540	275,769	2,505	-	8,233
Alabama	4,561	73	4,634	1,077	38,914	7,810	46,724	1,463	-	412
Arkansas	1,514	-	1,514	-	16,719	6,784	23,503	46	-	66
Louisiana	60,773	-	60,773	-	39,230	986	40,216	201	-	1,884
Mississippi	53,722	1	53,723	-	20,295	4,267	24,562	118	-	673
New Mexico	667	-	667	-	15,053	663	15,716	35	-	64
Texas	202,160	-	202,160	-	117,017	8,029	125,047	643	-	5,135
PAD District IV Total	11,215	2,187	13,402	-	80,700	10,561	91,261	438	225	360
Colorado	8,144	-	8,144	-	26,225	443	26,668	45	-	329
Idaho	720	-	720	-	10,732	2,792	13,524	25	-	5
Montana	213	129	342	-	8,755	6,832	15,587	24	197	4
Utah	1,958	2,058	4,016	-	17,757	329	18,086	-	-	10
Wyoming	181	-	181	-	17,231	165	17,396	344	28	12
PAD District V Total	294,721	5,033	299,754	7,783	301,382	80,493	381,876	-	30,942	610
Alaska	35,535	123	35,657	-	8,988	5,643	14,630	-	-	12
Arizona	2,350	8	2,358	-	37,165	2,576	39,741	-	-	63
California	215,013	-	215,013	-	175,637	26,599	202,235	-	-	392
Hawaii	32,595	-	32,595	3,196	5,621	59	5,680	-	30,877	-
Nevada	3,781	824	4,605	-	24,910	273	25,183	-	-	116
Oregon	714	53	767	-	16,529	30,119	46,647	-	65	17
Washington	4,733	4,026	8,758	4,587	32,534	15,225	47,759	-	-	9

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Adjusted Sales of Fuel Oil and Kerosene in 1989

The following tables contain estimates which have been adjusted to ensure that PAD districts total sales of distillate and residual fuel oils and kerosene equal published EIA volume estimates of products supplied in the U.S. marketplace. The products supplied estimates can be found in the 1985 through 1989 *Petroleum Supply Annual*. For further discussion of these adjustments, see Technical Note 3. As noted in the Introduction, Tables 13 through 24 will now be titled "Adjusted Sales of Fuel Oil and Kerosene."

Total domestic adjusted sales of fuel oil and kerosene remained constant from 1988 to 1989, 70.6 billion gallons to 70.7 billion gallons. While adjusted sales of distillate fuel oil showed a 0.9 percent increase over 1988, adjusted sales of residual fuel oil declined by 0.8 percent in 1989. Adjusted sales of kerosene showed a dramatic decrease, declining 12.6 percent from the previous year.

Table 13. Adjusted Sales of Distillate Fuel Oil by End Use in the United States: 1985-1989

(Thousand Gallons)

End Use	Distillate Fuel Oil				
	1985	1986	1987	1988	1989
U.S. Total	**43,966,734**	**44,677,080**	**45,629,346**	**47,985,420**	**48,393,450**
Residential	7,212,897	7,294,814	7,426,412	7,662,046	7,501,098
Commercial	4,514,211	4,293,095	4,279,375	4,135,079	3,858,743
Industrial	2,592,678	2,684,102	2,917,624	2,617,639	2,565,293
Oil Company	876,505	749,992	881,729	872,133	845,217
Farm	3,311,309	3,380,046	3,241,968	3,420,671	3,196,928
Electric Utility	514,327	614,361	646,073	800,085	1,078,887
Railroad	3,209,729	3,099,616	3,147,661	3,259,250	3,264,229
Vessel Bunkering	1,894,265	2,034,215	2,223,258	2,310,367	2,356,444
On-Highway Diesel	17,279,650	17,926,508	18,172,934	20,038,691	21,131,692
Military	768,179	760,417	884,392	980,877	928,316
Off-Highway Diesel	1,616,685	1,699,252	1,732,106	1,821,819	1,637,497
All Other	176,299	140,661	75,815	66,763	29,106

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1985-1989.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• On-Highway Diesel data are Federal Highway Administation statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1985-1989, (DOE/EIA-0340(85)/1 - (89)/1).

Table 14. Adjusted Sales of Residual Fuel Oil by End Use in the United States: 1985-1989

(Thousand Gallons)

End Use	Residual Fuel Oil				
	1985	1986	1987	1988	1989
U.S. Total	**18,431,280**	**21,744,114**	**19,383,168**	**21,179,550**	**21,002,814**
Commercial	1,326,870	1,663,005	1,764,531	1,788,728	1,537,027
Industrial	4,011,361	4,492,393	3,810,345	3,855,070	3,712,664
Oil Company	776,019	766,034	502,615	431,294	403,191
Electric Utility	6,183,985	9,041,608	7,631,898	9,540,878	9,797,966
Railroad	6,163	569	294	33	151
Vessel Bunkering	5,473,562	5,287,347	5,259,272	5,248,981	5,410,263
Military	192,918	180,918	191,045	[E] **137,287**	105,255
All Other	460,402	312,241	223,168	175,279	36,298

[E] Estimated data. Annual estimate is based on eleven months of data.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1985-1989.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Vessel Bunkering data for residual fuel oil are based on EIA estimates of intercoastal bunkering and the Bureau of the Census Report, "United States Foreign Trade, Bunker Fuels."

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1985-1989, (DOE/EIA-0340(85)/1 - (89)/1).

Table 15. Adjusted Sales of Kerosene by End Use in the United States: 1985-1989

(Thousand Gallons)

End Use	Kerosene				
	1985	1986	1987	1988	1989
U.S. Total	**1,745,856**	**1,506,162**	**1,449,504**	**1,478,316**	**1,291,668**
Residential	862,573	641,742	671,350	770,042	618,322
Commercial	367,218	307,704	267,437	306,584	349,566
Industrial	254,491	173,859	160,057	188,117	171,124
Farm	53,434	47,948	34,761	45,990	36,907
All Other	208,139	334,908	315,900	167,583	115,750

Note: Totals may not equal sum of components due to independent rounding.

Note: Kerosene data in the Adjusted Sales tables (13-24) are adjusted at the PAD District level. See Technical Note 3 for further explanation.

Sources: • Kerosene data are based on data from the Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1985-1989, (DOE/EIA-0340(85)/1 - (89)/1).

Table 16. Adjusted Sales of Distillate Fuel Oil by End Use, 1988 and 1989

(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1988	1989	1988	1989	1988	1989
U.S. Total	7,662,046	7,501,098	4,135,079	3,858,743	2,617,639	2,565,293
PAD District I Total	**6,019,068**	**6,003,771**	**2,370,013**	**2,483,447**	**882,413**	**847,186**
Subdistrict IA Total	**1,968,313**	**2,103,316**	**580,541**	**650,297**	**179,249**	**181,767**
Connecticut	551,570	597,477	126,954	143,928	41,539	39,079
Maine	250,661	238,445	75,085	68,062	25,728	27,390
Massachusetts	778,311	862,166	267,161	325,448	81,932	84,689
New Hampshire	155,027	180,907	48,426	49,823	12,381	12,902
Rhode Island	151,241	133,478	33,914	32,707	9,660	9,234
Vermont	81,504	90,843	29,000	30,329	8,010	8,474
Subdistrict IB Total	**3,413,354**	**3,332,803**	**1,301,863**	**1,416,405**	**369,595**	**320,283**
Delaware	58,492	55,486	16,393	12,513	8,396	8,934
District of Columbia	12,392	6,115	22,978	22,669	41	107
Maryland	248,603	215,803	78,171	84,163	28,327	28,770
New Jersey	737,996	668,788	331,693	342,936	84,121	70,026
New York	1,529,357	1,460,843	618,101	649,743	55,117	62,048
Pennsylvania	830,514	925,768	234,527	306,381	193,592	150,398
Subdistrict IC Total	**637,401**	**567,651**	**487,609**	**414,744**	**333,569**	**345,136**
Florida	21,929	15,238	139,057	116,672	34,013	39,961
Georgia	10,821	11,208	50,504	40,934	36,948	43,679
North Carolina	240,830	196,372	129,619	98,741	81,008	81,108
South Carolina	47,027	53,820	44,277	38,861	21,804	24,867
Virginia	292,714	263,958	109,142	98,760	77,482	74,019
West Virginia	24,079	27,056	15,011	20,776	82,313	81,502
PAD District II Total	**1,313,802**	**1,165,361**	**717,869**	**575,845**	**718,861**	**659,460**
Illinois	89,088	66,377	82,151	59,185	72,447	75,664
Indiana	117,319	97,159	56,174	48,503	71,576	84,897
Iowa	46,844	44,732	28,766	20,565	19,781	13,458
Kansas	1,254	1,345	16,178	14,002	14,194	10,401
Kentucky	37,255	31,287	40,976	27,261	152,600	139,924
Michigan	244,362	200,352	102,033	87,247	78,573	50,080
Minnesota	183,729	188,737	46,264	43,396	41,621	36,800
Missouri	26,635	19,892	69,849	38,886	38,594	33,430
Nebraska	8,355	10,456	12,554	9,561	5,116	5,046
North Dakota	40,530	38,339	6,467	7,804	12,640	17,825
Ohio	195,507	192,031	93,700	70,839	106,464	111,409
Oklahoma	1,172	17	26,213	26,779	24,679	22,281
South Dakota	38,625	37,803	14,495	9,253	8,409	5,144
Tennessee	9,476	10,270	46,311	27,900	42,657	31,685
Wisconsin	273,650	226,563	75,758	84,664	29,508	21,416
PAD District III Total	**3,956**	**3,050**	**395,649**	**326,243**	**434,962**	**432,914**
Alabama	1,773	1,442	47,236	51,571	88,349	81,243
Arkansas	55	32	10,684	18,475	20,300	22,918
Louisiana	99	323	54,428	35,497	36,289	24,230
Mississippi	180	273	25,175	35,915	34,130	23,570
New Mexico	514	441	23,573	21,249	71,161	44,243
Texas	1,334	539	234,553	163,537	184,732	236,711
PAD District IV Total	**44,722**	**45,637**	**109,842**	**75,564**	**171,297**	**197,695**
Colorado	2,221	1,753	42,770	22,623	45,199	35,260
Idaho	25,838	23,431	18,114	14,624	20,019	30,087
Montana	9,850	15,377	8,361	8,558	18,124	45,880
Utah	5,520	7,680	29,284	19,280	40,870	32,114
Wyoming	1,293	1,396	11,315	10,479	47,085	54,353
PAD District V Total	**280,499**	**279,280**	**541,685**	**307,644**	**410,107**	**428,039**
Alaska	53,971	63,744	36,760	34,630	27,629	35,482
Arizona	264	283	20,391	15,715	37,327	59,550
California	9,580	10,108	265,230	193,766	215,198	168,271
Hawaii	74	17	25,357	20,800	4,738	4,090
Nevada	12,216	10,587	19,107	15,896	57,528	94,996
Oregon	77,372	79,305	63,832	45,131	29,093	27,587
Washington	127,023	115,235	111,008	71,707	38,595	38,062

See footnotes at end of table.

Table 16. Adjusted Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Oil Company		Farm		Electric Utility	
	1988	1989	1988	1989	1988	1989
U.S. Total	**872,133**	**845,217**	**3,420,671**	**3,196,928**	**800,085**	**1,078,887**
PAD District I Total	**35,160**	**38,334**	**403,743**	**398,098**	**420,314**	**627,397**
Subdistrict IA Total	**1,492**	**1,832**	**21,679**	**18,981**	**30,371**	**39,534**
Connecticut	240	286	1,905	2,520	2,405	5,386
Maine	11	403	6,112	4,540	606	2,915
Massachusetts	853	763	2,447	2,910	22,055	24,448
New Hampshire	63	107	2,303	1,961	1,233	3,306
Rhode Island	300	249	232	199	2,164	1,961
Vermont	25	23	8,679	6,851	1,908	1,517
Subdistrict IB Total	**27,795**	**31,843**	**132,663**	**144,281**	**270,705**	**401,417**
Delaware	380	269	6,477	5,541	6,261	14,312
District of Columbia	–	–	–	–	71,720	71,970
Maryland	843	968	24,984	23,920	16,697	63,558
New Jersey	4,946	4,236	16,849	19,113	33,155	54,808
New York	7,506	10,284	50,739	48,870	81,982	114,115
Pennsylvania	14,121	16,087	33,615	46,838	60,890	82,654
Subdistrict IC Total	**5,873**	**4,658**	**249,401**	**234,835**	**119,238**	**186,446**
Florida	938	979	83,471	47,533	56,055	79,629
Georgia	156	280	66,123	82,966	12,510	16,155
North Carolina	22	81	43,810	39,584	18,434	22,419
South Carolina	692	299	21,478	27,394	8,692	11,880
Virginia	1,191	1,088	29,428	32,398	17,231	33,892
West Virginia	2,873	1,931	5,091	4,960	6,316	22,472
PAD District II Total	**58,243**	**60,550**	**1,525,354**	**1,393,420**	**161,038**	**188,359**
Illinois	7,540	6,078	189,073	170,578	29,615	24,651
Indiana	1,289	930	85,050	84,188	19,048	29,115
Iowa	55	71	175,643	147,584	8,624	4,832
Kansas	7,730	8,024	146,670	132,404	6,280	7,468
Kentucky	574	683	44,062	38,602	8,740	17,107
Michigan	3,878	1,353	75,242	59,830	34,125	37,769
Minnesota	512	524	154,086	129,423	8,439	6,384
Missouri	465	315	75,031	79,324	9,594	9,620
Nebraska	458	22	159,059	145,637	647	3,902
North Dakota	2,686	4,421	82,674	89,892	1,999	4,302
Ohio	7,547	6,153	75,940	74,818	20,205	21,269
Oklahoma	23,790	30,983	51,635	41,123	66	542
South Dakota	11	12	91,500	74,497	1,265	862
Tennessee	984	551	37,538	39,597	2,842	3,447
Wisconsin	724	430	82,151	85,923	9,551	17,090
PAD District III Total	**671,714**	**675,879**	**904,614**	**740,018**	**71,653**	**114,885**
Alabama	2,159	9,997	37,124	60,320	7,208	10,486
Arkansas	1,160	4,913	153,512	92,106	11,103	11,073
Louisiana	301,589	328,594	177,694	91,754	13,349	20,371
Mississippi	40,260	18,459	122,241	133,238	4,361	5,072
New Mexico	16,701	11,533	26,954	16,925	387	6,351
Texas	309,844	302,383	387,089	345,675	35,245	61,532
PAD District IV Total	**20,442**	**20,914**	**192,693**	**196,150**	**14,497**	**18,933**
Colorado	4,329	1,316	62,193	54,657	3,088	5,161
Idaho	93	8	66,078	68,266	48	27
Montana	1,032	1,093	37,452	53,859	1,043	2,552
Utah	1,555	4,459	16,783	9,656	4,386	4,293
Wyoming	13,434	14,038	10,187	9,713	5,931	6,899
PAD District V Total	**86,573**	**49,540**	**394,267**	**469,243**	**132,584**	**129,313**
Alaska	42,770	27,330	358	257	34,863	21,953
Arizona	231	67	22,433	31,647	4,993	4,382
California	40,105	19,399	254,767	302,124	28,521	19,719
Hawaii	1,782	923	18,509	11,132	60,862	74,240
Nevada	165	321	8,360	5,187	1,768	2,639
Oregon	620	279	49,234	49,245	467	5,363
Washington	900	1,222	40,608	69,650	1,110	1,017

See footnotes at end of table.

Table 16. Adjusted Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		On-Highway	
	1988	1989	1988	1989	1988	1989
U.S. Total	**3,259,250**	**3,264,229**	**2,310,367**	**2,356,444**	**20,038,691**	**21,131,692**
PAD District I Total	**646,772**	**555,279**	**470,566**	**453,313**	**6,712,224**	**6,752,738**
Subdistrict IA Total	**18,909**	**35,317**	**46,292**	**59,061**	**836,650**	**827,956**
Connecticut	148	5,413	6,717	1,956	212,589	257,361
Maine	9,209	6,424	9,216	12,263	175,344	139,908
Massachusetts	5,786	19,733	28,320	38,242	293,007	271,944
New Hampshire	147	36	513	337	58,051	59,561
Rhode Island	353	534	1,173	5,896	43,741	52,932
Vermont	3,266	3,177	352	367	53,918	46,250
Subdistrict IB Total	**213,996**	**179,628**	**179,289**	**166,937**	**2,497,825**	**2,571,926**
Delaware	1,754	1,038	3,663	3,259	55,412	74,089
District of Columbia	4,124	13,287	34	22	23,033	23,064
Maryland	32,461	41,025	8,129	8,709	299,521	351,150
New Jersey	51,938	62,696	131,351	119,169	477,858	453,482
New York	37,347	17,584	10,926	9,925	713,826	754,276
Pennsylvania	86,371	43,997	25 '85	25,854	928,175	915,865
Subdistrict IC Total	**413,868**	**340,335**	**244,986**	**227,315**	**3,377,749**	**3,352,856**
Florida	98,562	85,557	105,463	89,628	832,093	899,369
Georgia	86,978	65,938	24,757	34,882	831,267	838,847
North Carolina	54,875	37,167	8,625	8,638	711,035	614,485
South Carolina	37,173	30,946	8,945	5,381	310,365	302,614
Virginia	123,612	94,408	52,397	25,289	532,848	537,569
West Virginia	12,668	26,318	44,799	63,497	160,141	159,972
PAD District II Total	**1,296,994**	**1,335,990**	**295,067**	**380,790**	**6,645,800**	**7,253,324**
Illinois	91,107	139,446	25,426	32,932	771,386	839,968
Indiana	194,874	227,166	10,966	9,233	628,647	784,441
Iowa	37,483	33,941	1,600	2,403	333,931	349,044
Kansas	151,350	169,928	-	-	331,926	303,893
Kentucky	122,547	116,502	85,058	98,114	512,517	692,215
Michigan	43,557	42,684	10,373	4,558	526,217	528,906
Minnesota	42,964	39,444	1,165	2,674	331,701	331,625
Missouri	35,426	34,875	46,860	44,001	535,424	641,680
Nebraska	162,856	122,799	-	66	217,014	208,258
North Dakota	39,663	36,451	-	-	89,873	90,544
Ohio	151,825	123,607	4,210	8,442	861,428	960,195
Oklahoma	66,814	78,303	369	266	394,165	394,174
South Dakota	1,767	2,374	-	-	91,906	91,221
Tennessee	93,724	62,179	103,212	175,079	578,829	587,396
Wisconsin	61,036	106,289	5,828	3,022	440,836	449,764
PAD District III Total	**597,323**	**640,845**	**950,190**	**998,618**	**3,012,582**	**3,221,237**
Alabama	66,615	67,231	65,291	139,715	480,340	544,882
Arkansas	21,825	35,200	257	666	346,026	395,236
Louisiana	73,523	78,996	504,804	460,005	383,054	385,621
Mississippi	15,565	17,890	105,086	75,914	302,361	302,523
New Mexico	46,652	52,161	-	-	204,734	205,916
Texas	373,144	389,367	274,752	322,318	1,296,067	1,387,059
PAD District IV Total	**300,702**	**312,449**	**81**	**134**	**725,429**	**734,904**
Colorado	70,093	88,610	-	64	188,922	185,519
Idaho	23,782	19,728	81	71	99,626	117,246
Montana	59,640	59,283	-	-	115,899	119,503
Utah	35,188	34,842	-	-	149,108	125,184
Wyoming	111,999	109,985	-	-	171,874	187,452
PAD District V Total	**417,459**	**419,666**	**594,463**	**523,588**	**2,942,656**	**3,169,489**
Alaska	3,042	4,963	63,341	132,087	83,235	96,446
Arizona	23,781	8,348	-	-	299,981	314,671
California	194,446	218,393	370,162	198,830	1,760,085	1,913,647
Hawaii	19	17	60,545	62,832	21,935	23,717
Nevada	29,855	23,511	-	-	118,022	131,055
Oregon	91,261	86,388	33,063	34,274	302,381	311,843
Washington	75,056	78,045	67,352	75,565	357,017	378,110

See footnotes at end of table.

Table 16. Adjusted Sales of Distillate Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Military		Off-Highway		All Other		Total	
	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	**980,877**	**928,316**	**1,821,819**	**1,637,497**	**66,763**	**29,106**	**47,985,420**	**48,393,450**
PAD District I Total	**179,235**	**141,367**	**415,066**	**461,637**	**15,811**	**11,307**	**18,570,384**	**18,773,874**
Subdistrict IA Total	**13,837**	**15,102**	**64,179**	**66,502**	**674**	**597**	**3,762,185**	**4,000,264**
Connecticut	1,305	611	12,010	18,713	281	480	957,661	1,073,210
Maine	2,304	2,984	20,028	12,836	–	39	574,305	516,210
Massachusetts	3,850	1,988	17,627	18,219	66	–	1,501,415	1,650,549
New Hampshire	75	1,542	6,110	7,674	–	–	284,329	318,155
Rhode Island	5,682	7,748	999	3,344	185	79	249,646	248,361
Vermont	620	229	7,404	5,717	142	–	194,829	193,778
Subdistrict IB Total	**36,071**	**55,629**	**134,658**	**180,995**	**3,286**	**3,338**	**8,581,098**	**8,807,488**
Delaware	33	85	3,384	4,202	94	–	160,738	179,727
District of Columbia	6,836	2,996	81	31	–	–	143,240	140,261
Maryland	3,930	22,336	15,272	32,165	2,710	2,569	759,648	875,137
New Jersey	6,008	9,124	28,363	52,452	32	48	1,900,310	1,856,878
New York	12,611	10,410	41,963	40,298	263	3	3,159,737	3,178,401
Pennsylvania	4,653	10,677	45,595	51,847	187	718	2,457,425	2,577,083
Subdistrict IC Total	**129,327**	**70,636**	**216,230**	**214,139**	**11,851**	**7,371**	**6,227,101**	**5,966,123**
Florida	28,773	20,305	56,154	65,627	1,489	1,307	1,457,996	1,461,804
Georgia	12,085	9,153	35,397	38,179	4,165	1,610	1,171,711	1,183,830
North Carolina	4,308	7,794	28,443	26,555	2,780	2,234	1,323,790	1,135,279
South Carolina	3,221	2,557	24,928	26,501	1,277	908	529,879	526,128
Virginia	80,442	30,664	53,024	36,720	2,112	1,299	1,371,623	1,230,064
West Virginia	498	163	18,285	20,358	28	13	372,102	429,017
PAD District II Total	**50,752**	**44,570**	**414,244**	**340,350**	**40,819**	**13,925**	**13,238,862**	**13,411,944**
Illinois	1,879	4,430	56,630	37,553	3,544	161	1,419,887	1,457,021
Indiana	4,031	6,569	17,954	29,465	3,198	2,819	1,210,126	1,404,487
Iowa	110	272	17,335	9,595	2,848	1,876	673,021	628,372
Kansas	1,947	855	17,127	12,352	1,518	1,601	696,175	662,271
Kentucky	10,793	5,419	21,276	21,811	719	19	1,037,117	1,188,945
Michigan	3,222	3,146	49,716	45,397	2,192	1,744	1,173,490	1,063,066
Minnesota	2,704	2,030	23,638	26,163	2,122	1,818	838,945	809,017
Missouri	6,309	4,994	37,120	21,499	6,791	1,165	888,098	929,681
Nebraska	1,423	1,063	18,094	17,083	–	–	585,578	523,895
North Dakota	2,505	1,344	5,470	4,509	76	194	284,583	295,626
Ohio	9,006	8,597	27,752	27,963	358	335	1,553,942	1,605,659
Oklahoma	2,412	1,491	28,108	22,047	4,616	227	624,037	618,234
South Dakota	730	512	11,684	5,642	336	540	260,730	227,860
Tennessee	1,054	2,785	59,940	26,619	1,236	650	977,804	968,157
Wisconsin	2,626	1,064	22,396	32,652	11,264	776	1,015,329	1,029,655
PAD District III Total	**407,584**	**442,179**	**505,034**	**376,969**	**8,780**	**3,425**	**7,964,040**	**7,976,262**
Alabama	4,853	6,335	53,110	63,870	3,578	1,999	857,636	1,039,092
Arkansas	2,467	2,069	30,943	32,128	2,793	63	601,125	614,878
Louisiana	20,955	83,075	74,854	54,974	297	275	1,640,937	1,563,715
Mississippi	116,607	73,439	33,755	33,576	880	162	800,602	720,030
New Mexico	1,882	912	35,167	21,484	0	48	427,725	381,263
Texas	260,820	276,348	277,203	170,936	1,232	879	3,636,015	3,657,284
PAD District IV Total	**15,584**	**13,748**	**115,045**	**93,611**	**410**	**450**	**1,710,744**	**1,714,188**
Colorado	8,482	8,353	43,198	27,355	33	46	470,526	430,717
Idaho	2,542	738	17,004	13,872	–	26	273,223	288,124
Montana	480	351	11,171	15,989	213	25	263,266	322,470
Utah	3,797	4,120	21,284	18,551	–	–	307,776	260,179
Wyoming	283	186	22,388	17,844	165	353	395,953	412,697
PAD District V Total	**327,723**	**286,451**	**372,431**	**364,928**	**943**	**–**	**6,501,390**	**6,517,182**
Alaska	17,561	34,075	13,855	13,980	40	–	377,423	464,948
Arizona	1,324	2,253	25,285	37,978	–	–	436,010	474,894
California	221,645	205,471	208,735	193,260	811	–	3,569,284	3,442,990
Hawaii	54,672	31,149	7,227	5,428	–	–	255,720	254,345
Nevada	4,928	4,401	32,792	24,066	33	–	284,773	312,658
Oregon	1,390	733	43,412	44,577	–	–	692,124	684,725
Washington	26,205	8,370	41,125	45,640	59	–	886,056	882,623

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• On-Highway Diesel data are Federal Highway Administation statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1988 and 1989, (DOE/EIA-0340(88)/1 - (89)/1).

Table 17. Adjusted Sales of Residual Fuel Oil by End Use, 1988 and 1989

(Thousand Gallons)

Destination	Commercial		Industrial		Oil Company		Electric Utility	
	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	**1,788,728**	**1,537,027**	**3,855,070**	**3,712,664**	**433,294**	**403,191**	**9,540,878**	**9,797,966**
PAD District I Total	**1,083,004**	**595,921**	**1,358,836**	**737,517**	**70,652**	**63,584**	**8,048,533**	**8,601,468**
Subdistrict IA Total	**243,312**	**158,354**	**386,092**	**209,937**	**210**	**391**	**2,341,607**	**2,310,284**
Connecticut	42,331	29,398	64,819	31,796	210	391	706,921	749,254
Maine	58,354	36,344	154,450	90,196	-	-	184,248	219,634
Massachusetts	106,355	73,270	113,447	64,904	-	-	1,219,964	1,103,079
New Hampshire	15,150	9,074	28,217	11,670	-	-	199,724	215,811
Rhode Island	19,242	8,683	19,664	9,435	-	-	30,750	22,506
Vermont	1,880	1,586	5,496	1,937	-	-	-	-
Subdistrict IB Total	**722,447**	**384,288**	**452,351**	**243,230**	**66,216**	**61,249**	**3,959,641**	**4,330,729**
Delaware	5,514	4,439	21,542	10,972	13,245	7,488	131,732	173,374
District of Columbia	6,893	2,457	-	5	-	-	-	-
Maryland	22,317	24,545	30,198	17,520	2,699	1,182	214,869	404,651
New Jersey	88,596	34,083	158,008	75,213	5,405	2,687	565,072	525,982
New York	563,523	301,433	148,931	81,785	864	1,094	2,642,176	2,764,305
Pennsylvania	35,604	17,331	93,671	57,735	44,004	48,798	405,791	442,417
Subdistrict IC Total	**117,245**	**53,280**	**520,393**	**284,350**	**4,226**	**1,943**	**1,747,284**	**1,960,456**
Florida	65,351	37,683	123,738	54,674	148	39	1,610,455	1,726,877
Georgia	23,794	4,915	52,959	32,008	518	403	3,106	618
North Carolina	8,758	4,300	166,570	86,686	1,531	866	-	-
South Carolina	1,450	709	76,094	37,774	86	201	-	-
Virginia	12,529	4,001	88,195	54,832	548	435	133,724	232,962
West Virginia	5,364	1,673	12,837	18,375	1,395	-	-	-
PAD District II Total	**89,135**	**84,294**	**535,374**	**532,366**	**178,390**	**167,054**	**207,313**	**197,418**
Illinois	26,349	12,623	80,448	63,350	54,890	59,760	88,120	71,844
Indiana	10,958	19,484	66,328	96,479	58,231	52,259	-	-
Iowa	898	1,825	10,837	8,305	-	-	-	-
Kansas	34	550	22,900	14,277	8,471	2,612	857	-
Kentucky	1,755	14	14,496	17,917	9,641	8,237	-	-
Michigan	8,760	4,982	87,920	88,165	10,087	9,844	84,750	87,400
Minnesota	13,494	14,829	32,289	30,950	11,588	12,715	18	7
Missouri	4,587	1,924	24,181	23,218	-	-	10,100	14,460
Nebraska	597	2,397	14,655	14,973	-	-	4,395	2,531
North Dakota	2,102	1,515	5,864	5,267	7,947	9,313	149	243
Ohio	3,590	983	95,190	91,119	11,188	7,149	18,924	20,933
Oklahoma	261	2,513	29,625	18,735	-	-	-	-
South Dakota	1,009	1,245	2,378	2,407	-	-	-	-
Tennessee	3,461	2,911	15,966	21,824	265	262	-	-
Wisconsin	11,278	15,498	32,297	35,382	6,092	4,904	-	-
PAD District III Total	**500,819**	**615,925**	**1,709,023**	**2,150,896**	**19,417**	**8,893**	**71,158**	**75,420**
Alabama	239,051	289,682	228,899	199,364	7,646	-	-	-
Arkansas	-	-	74,254	137,335	-	-	5,737	5,726
Louisiana	72,608	146,525	953,765	822,444	5,101	292	9,319	8,524
Mississippi	5,470	7,563	227,266	621,730	-	-	46,542	51,407
New Mexico	-	-	26,452	85,444	-	-	1,430	1,775
Texas	183,691	172,155	198,385	284,579	6,670	8,601	8,132	7,988
PAD District IV Total	**34,368**	**18,811**	**51,859**	**52,126**	**70,617**	**95,539**	**148**	**39**
Colorado	-	1,880	1,001	4,581	-	-	51	3
Idaho	1,282	8,369	9,400	6,042	-	-	-	-
Montana	1,659	4,080	5,459	434	34,814	51,763	-	-
Utah	8,935	4,312	24,300	38,254	21,436	37,329	-	-
Wyoming	22,492	170	11,700	2,815	14,367	6,447	97	36
PAD District V Total	81,403	222,075	199,979	239,760	94,218	68,121	1,213,726	923,621
Alaska	5,064	-	-	-	-	-	139	-
Arizona	15	-	512	299	-	-	1,110	3,393
California	13,463	38,743	70,687	118,003	72,778	21,854	673,885	372,937
Hawaii	53,758	165,988	2,234	6,223	14,606	33,954	500,191	522,447
Nevada	90	90	1,679	2,971	344	331	38,401	24,844
Oregon	5,417	13,617	25,357	18,666	902	139	-	-
Washington	3,596	3,637	99,510	93,598	5,588	11,843	-	-

See footnotes at end of table

Table 17. Adjusted Sales of Residual Fuel Oil by End Use, 1988 and 1989—Continued

(Thousand Gallons)

Destination	Railroad		Vessel Bunkering		Military		All Other		Total	
	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
U.S. Total	33	151	5,248,981	5,410,263	[E] 137,287	105,255	175,279	36,298	21,179,550	21,002,814
PAD District I Total	-	-	933,547	955,481	105,464	90,853	3,304	84	11,603,340	11,044,908
Subdistrict IA Total	-	-	34,404	34,218	23,830	25,823	-	-	3,029,455	2,739,007
Connecticut	-	-	876	236	4,924	3,097	-	-	820,082	814,172
Maine	-	-	12,270	3,962	-	4,085	-	-	409,322	354,221
Massachusetts	-	-	16,311	29,557	5,785	14,388	-	-	1,461,862	1,285,197
New Hampshire	-	-	445	-	6,363	1,049	-	-	249,899	237,604
Rhode Island	-	-	4,501	464	6,758	2,850	-	-	80,914	43,937
Vermont	-	-	-	-	-	354	-	-	7,376	3,876
Subdistrict IB Total	-	-	548,917	524,719	47,454	40,918	2,945	-	5,799,972	5,585,132
Delaware	-	-	25,630	28,740	-	-	-	-	197,663	225,013
District of Columbia	-	-	-	-	499	2,115	-	-	7,392	4,578
Maryland	-	-	62,820	64,120	23,654	23,688	-	-	356,558	535,705
New Jersey	-	-	220,204	288,946	6,920	2,892	60	-	1,044,265	929,804
New York	-	-	81,687	11,822	13,303	8,815	2,884	-	3,453,368	3,189,253
Pennsylvania	-	-	158,577	131,091	3,078	3,408	-	-	740,726	700,780
Subdistrict IC Total	-	-	350,226	396,544	34,180	24,112	360	84	2,773,913	2,720,769
Florida	-	-	235,237	257,318	9,476	7,460	173	-	2,044,577	2,084,050
Georgia	-	-	12,092	20,346	1,783	1,947	-	-	94,252	60,236
North Carolina	-	-	5,898	19,099	10,411	4,214	187	84	193,355	115,249
South Carolina	-	-	19,391	17,892	5,360	6,343	-	-	102,381	62,919
Virginia	-	-	77,609	81,889	7,149	4,149	-	-	319,753	378,267
West Virginia	-	-	-	-	-	-	-	-	19,596	20,048
PAD District II Total	33	1	24,593	18,710	4,921	4,291	246	549	1,040,004	1,004,682
Illinois	-	-	15,351	2,671	155	-	40	-	265,353	210,249
Indiana	-	-	6,831	9,908	-	-	-	-	142,348	178,130
Iowa	-	1	-	-	-	10	-	-	11,735	10,140
Kansas	-	-	-	-	-	-	-	-	32,263	17,439
Kentucky	-	-	-	-	-	-	-	-	25,892	26,168
Michigan	-	-	1,315	5,397	-	-	-	74	192,832	195,862
Minnesota	11	-	306	73	-	-	190	153	57,895	58,726
Missouri	22	-	-	-	4,218	3,709	-	-	43,107	43,311
Nebraska	-	-	-	-	-	-	16	19	19,664	19,920
North Dakota	-	-	-	-	-	-	-	303	16,062	16,640
Ohio	-	-	524	451	-	-	-	-	129,416	120,636
Oklahoma	-	-	-	-	-	-	-	-	29,886	21,247
South Dakota	-	-	-	-	-	2	-	-	3,387	3,654
Tennessee	-	-	66	22	548	571	-	-	20,306	25,590
Wisconsin	-	-	200	187	-	-	-	-	49,857	56,971
PAD District III Total	-	-	1,794,626	1,897,207	4,292	1,229	159,381	-	4,258,716	4,749,570
Alabama	-	-	74,707	97,958	28	1,229	-	-	550,331	588,234
Arkansas	-	-	-	-	-	-	-	-	79,991	143,061
Louisiana	-	-	847,838	845,590	4,264	-	12,636	-	1,905,531	1,823,375
Mississippi	-	-	64,215	42,127	-	-	-	-	343,492	722,827
New Mexico	-	-	-	-	-	-	-	-	27,882	87,219
Texas	-	-	807,866	911,532	-	-	146,745	-	1,351,488	1,384,854
PAD District IV Total	-	129	-	-	-	-	172	1,524	157,164	168,168
Colorado	-	-	-	-	-	-	-	-	1,051	6,464
Idaho	-	-	-	-	-	-	-	-	10,682	14,411
Montana	-	-	-	-	-	-	-	1,331	41,932	57,608
Utah	-	58	-	-	-	-	-	-	54,670	79,952
Wyoming	-	72	-	-	-	-	172	193	48,829	9,732
PAD District V Total	-	21	[a] 2,496,215	[a] 2,538,865	22,610	8,682	12,175	34,141	4,120,326	4,035,486
Alaska	-	-	5,624	4,313	-	-	-	-	10,828	4,313
Arizona	-	-	-	-	-	-	-	-	1,636	3,692
California	-	-	1,878,459	1,791,584	7,162	-	-	-	2,716,435	2,343,121
Hawaii	-	-	63,078	78,996	3,191	3,647	12,083	34,069	649,142	845,324
Nevada	-	-	-	-	-	-	-	-	40,513	28,236
Oregon	-	21	169,417	173,342	236	-	13	72	201,342	205,857
Washington	-	-	379,637	490,630	12,021	5,235	78	-	500,430	604,943

[a] See Technical Note 3 for adjustment to vessel bunkering data.

[E] Estimated data. Annual estimate is based on eleven months of data.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Vessel Bunkering data for residual fuel oil are based on EIA estimates of intercoastal bunkering and the Bureau of the Census Report, "United States Foreign Trade, Bunker Fuels."

• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1988 and 1989, (DOE/EIA-0340(88)/1 - (89)/1).

Table 18. Adjusted Sales of Kerosene by End Use, 1988 and 1989
(Thousand Gallons)

Destination	Residential		Commercial		Industrial	
	1988	1989	1988	1989	1988	1989
U.S. Total	**770,042**	**618,322**	**306,584**	**349,566**	**188,117**	**171,124**
PAD District I Total	**402,647**	**338,613**	**44,933**	**54,607**	**39,406**	**44,228**
Subdistrict IA Total	**45,154**	**44,404**	**7,878**	**8,608**	**6,986**	**2,993**
Connecticut	7,811	5,878	1,288	2,972	4,842	1,910
Maine	15,219	16,487	3,091	1,925	344	178
Massachusetts	5,811	5,541	1,369	1,323	800	758
New Hampshire	8,488	9,627	846	1,112	135	41
Rhode Island	1,858	1,172	53	94	0	5
Vermont	5,967	5,698	1,231	1,183	866	101
Subdistrict IB Total	**178,129**	**142,960**	**16,266**	**24,817**	**23,273**	**30,755**
Delaware	5,883	5,527	521	127	48	155
District of Columbia	164	223	83	982	5	-
Maryland	25,536	16,679	1,228	1,820	2,064	1,200
New Jersey	9,149	11,704	2,254	5,406	2,218	12,669
New York	80,759	56,848	4,023	10,655	14,520	13,446
Pennsylvania	56,638	51,980	8,158	5,827	4,418	3,285
Subdistrict IC Total	**179,364**	**151,249**	**20,789**	**21,181**	**9,147**	**10,480**
Florida	12,691	7,816	8,109	7,313	797	1,910
Georgia	3,989	3,634	411	1,494	717	1,087
North Carolina	79,124	61,797	4,985	3,618	3,597	2,454
South Carolina	24,839	24,323	503	1,448	2,166	2,183
Virginia	51,006	46,601	5,242	5,750	1,038	1,615
West Virginia	7,714	7,077	1,538	1,559	832	1,230
PAD District II Total	**152,921**	**167,570**	**33,738**	**38,842**	**18,317**	**21,740**
Illinois	8,177	9,435	2,229	2,868	1,693	2,706
Indiana	19,572	24,181	2,960	1,805	2,782	2,484
Iowa	2,944	1,881	190	262	154	144
Kansas	759	812	361	745	69	317
Kentucky	24,333	26,500	5,409	7,440	5,924	7,564
Michigan	15,084	17,808	705	2,562	1,945	2,387
Minnesota	4,338	12,255	179	185	42	45
Missouri	2,195	3,118	614	561	224	282
Nebraska	608	372	73	132	37	24
North Dakota	294	449	41	24	0	5
Ohio	47,498	39,709	9,973	10,917	3,684	4,300
Oklahoma	941	878	1,616	4,004	219	386
South Dakota	516	388	9	13	5	1
Tennessee	23,642	27,983	9,127	7,037	1,425	860
Wisconsin	2,019	1,802	252	288	113	234
PAD District III Total	**201,534**	**96,177**	**159,407**	**204,003**	**123,720**	**99,644**
Alabama	98,719	34,829	9,669	6,220	6,435	2,949
Arkansas	19,438	12,395	7,350	812	6,854	4,684
Louisiana	8,814	13,829	84,328	15,021	27,976	20,369
Mississippi	21,327	9,695	2,776	2,084	29,000	4,625
New Mexico	8,717	4,331	23,751	6,121	4,538	18,693
Texas	44,519	21,098	31,533	173,744	48,916	48,325
PAD District IV Total	**1,728**	**1,041**	**855**	**3,318**	**1,131**	**172**
Colorado	1,144	842	499	3,186	546	104
Idaho	257	48	46	8	10	4
Montana	50	20	1	2	0	-
Utah	223	108	170	83	460	19
Wyoming	54	23	139	39	115	46
PAD District V Total	**11,212**	**14,921**	**67,651**	**48,797**	**5,543**	**5,341**
Alaska	192	51	10,965	55	7	7
Arizona	186	30	38	176	2,946	3,088
California	5,873	7,450	5,102	2,852	1,567	1,484
Hawaii	0	0	15	17	8	8
Nevada	975	994	486	327	115	217
Oregon	554	2,639	515	499	80	167
Washington	3,432	3,756	50,530	44,871	819	369

See footnotes at end of table.

Table 18. Adjusted Sales of Kerosene by End Use, 1988 and 1989—Continued
(Thousand Gallons)

Destination	Farm		All Other		Total	
	1988	1989	1988	1989	1988	1989
U.S. Total	**45,990**	**36,907**	**167,583**	**115,750**	**1,478,316**	**1,291,668**
PAD District I Total	**9,542**	**7,992**	**23,936**	**24,205**	**520,464**	**469,644**
Subdistrict IA Total	**1,137**	**1,048**	**995**	**3,908**	**62,150**	**60,961**
Connecticut	10	5	93	2,998	14,044	13,763
Maine	365	559	366	259	19,385	19,408
Massachusetts	5	43	133	375	8,118	8,041
New Hampshire	27	26	46	223	9,541	11,030
Rhode Island	0	0	319	18	2,231	1,288
Vermont	730	414	37	35	8,831	7,431
Subdistrict IB Total	**3,091**	**4,255**	**16,268**	**17,856**	**237,027**	**220,643**
Delaware	177	8	2	17	6,630	5,834
District of Columbia	–	–	29	–	281	1,204
Maryland	168	851	601	92	29,596	20,643
New Jersey	15	4	13,142	1,751	26,778	31,534
New York	1,884	2,340	916	15,137	102,102	98,425
Pennsylvania	848	1,052	1,578	859	71,640	63,003
Subdistrict IC Total	**5,314**	**2,689**	**6,674**	**2,441**	**221,287**	**188,040**
Florida	25	36	752	411	22,375	17,486
Georgia	870	27	547	200	6,534	6,442
North Carolina	2,617	873	2,847	439	93,171	69,181
South Carolina	462	605	811	697	28,782	29,256
Virginia	1,114	733	739	526	59,138	55,225
West Virginia	225	416	978	168	11,288	10,449
PAD District II Total	**8,911**	**11,605**	**9,678**	**6,322**	**223,566**	**246,078**
Illinois	757	580	363	1,082	13,219	16,671
Indiana	672	899	878	183	26,864	29,551
Iowa	652	598	90	338	4,030	3,223
Kansas	288	531	103	134	1,580	2,538
Kentucky	1,065	942	131	420	36,862	42,866
Michigan	160	320	11	411	17,905	23,487
Minnesota	1,092	2,162	134	63	5,786	14,710
Missouri	161	412	528	803	3,722	5,177
Nebraska	318	451	1,830	12	2,865	990
North Dakota	78	16	148	12	560	507
Ohio	2,676	3,501	1,943	2,328	65,774	60,754
Oklahoma	389	101	174	65	3,339	5,434
South Dakota	162	214	36	35	729	652
Tennessee	286	438	3,227	357	37,708	36,675
Wisconsin	157	441	80	79	2,622	2,843
PAD District III Total	**26,219**	**15,844**	**133,400**	**84,048**	**644,280**	**499,716**
Alabama	1,967	272	7,644	4,201	124,434	48,472
Arkansas	1,368	1,383	3,934	672	38,944	19,946
Louisiana	841	3,589	74,895	19,230	196,855	72,038
Mississippi	14,009	4,480	176	6,870	67,288	27,753
New Mexico	389	424	1,331	653	36,726	30,221
Texas	7,644	5,695	45,420	52,423	178,032	301,286
PAD District IV Total	**975**	**377**	**58**	**174**	**4,746**	**5,082**
Colorado	815	301	11	159	3,014	4,591
Idaho	22	11	4	2	338	73
Montana	86	44	0	2	137	69
Utah	31	11	14	5	898	225
Wyoming	21	11	29	6	359	124
PAD District V Total	**343**	**1,089**	**511**	**1,001**	**85,260**	**71,148**
Alaska	–	–	18	20	11,182	133
Arizona	12	27	58	104	3,240	3,424
California	155	823	403	644	13,100	13,253
Hawaii	0	0	–	–	23	25
Nevada	29	70	14	191	1,620	1,799
Oregon	9	88	11	27	1,169	3,420
Washington	137	81	7	15	54,926	49,093

Dashes (–) = No data reported.
Note: Totals may not equal sum of components due to independent rounding.
Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1988 and 1989.
• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1988 and 1989, (DOE/EIA-0340(88)/1 - (89)/1).

Table 19. Adjusted Sales for Residential Use: Distillate Fuel Oil and Kerosene, 1989

(Thousand Gallons)

Destination	Distillate Fuel Oil			Kerosene
	No. 1	No. 2	Total	
U.S. Total	**278,134**	**7,222,964**	**7,501,098**	**618,322**
PAD District I Total	**39,937**	**5,963,834**	**6,003,771**	**338,613**
Subdistrict IA Total	**10,681**	**2,092,635**	**2,103,316**	**44,404**
Connecticut	899	596,578	597,477	5,878
Maine	6,788	231,657	238,445	16,487
Massachusetts	409	861,757	862,166	5,541
New Hampshire	1,052	179,855	180,907	9,627
Rhode Island	1,206	132,272	133,478	1,172
Vermont	326	90,517	90,843	5,698
Subdistrict IB Total	**15,071**	**3,317,732**	**3,332,803**	**142,960**
Delaware	129	55,357	55,486	5,527
District of Columbia	-	6,115	6,115	223
Maryland	913	214,891	215,803	16,679
New Jersey	44	668,743	668,788	11,704
New York	7,667	1,453,176	1,460,843	56,848
Pennsylvania	6,318	919,450	925,768	51,980
Subdistrict IC Total	**14,185**	**553,466**	**567,651**	**151,249**
Florida	416	14,822	15,238	7,816
Georgia	61	11,146	11,208	3,634
North Carolina	7,057	189,315	196,372	61,797
South Carolina	1,769	52,050	53,820	24,323
Virginia	3,642	260,316	263,958	46,601
West Virginia	1,239	25,816	27,056	7,077
PAD District II Total	**188,600**	**976,761**	**1,165,361**	**167,570**
Illinois	10,454	55,923	66,377	9,435
Indiana	20,279	76,880	97,159	24,181
Iowa	8,162	36,570	44,732	1,881
Kansas	451	894	1,345	812
Kentucky	2,524	28,763	31,287	26,500
Michigan	32,313	168,039	200,352	17,808
Minnesota	40,080	148,658	188,737	12,255
Missouri	4,375	15,517	19,892	3,118
Nebraska	5,246	5,210	10,456	372
North Dakota	7,101	31,237	38,339	449
Ohio	20,154	171,877	192,031	39,709
Oklahoma	1	16	17	878
South Dakota	10,907	26,896	37,803	388
Tennessee	133	10,136	10,270	27,983
Wisconsin	26,420	200,144	226,563	1,802
PAD District III Total	**138**	**2,912**	**3,050**	**96,177**
Alabama	19	1,423	1,442	34,829
Arkansas	-	32	32	12,395
Louisiana	26	298	323	13,829
Mississippi	56	217	273	9,695
New Mexico	28	413	441	4,331
Texas	9	529	539	21,098
PAD District IV Total	**12,888**	**36,749**	**49,637**	**1,041**
Colorado	741	1,012	1,753	842
Idaho	4,388	19,043	23,431	48
Montana	7,085	8,292	15,377	20
Utah	370	7,310	7,680	108
Wyoming	304	1,092	1,396	23
PAD District V Total	**36,570**	**242,710**	**279,280**	**14,921**
Alaska	19,318	44,427	63,744	51
Arizona	123	160	283	30
California	2,987	7,122	10,108	7,450
Hawaii	3	13	17	0
Nevada	1,219	9,368	10,587	994
Oregon	5,809	73,496	79,305	2,639
Washington	7,111	108,124	115,235	3,756

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 20. Adjusted Sales for Commercial Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Distillate Fuel Oil						Residual Fuel Oil	Kerosene
	No. 1 Distillate	No. 2 Distillate			No. 4 Fuel	Total Distillate		
		No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total				
U.S. Total	**113,648**	**1,852,332**	**1,429,825**	**3,282,156**	**462,939**	**3,858,743**	**1,537,027**	**349,566**
PAD District I Total	**32,997**	**1,472,512**	**538,227**	**2,010,738**	**439,712**	**2,483,447**	**595,921**	**54,607**
Subdistrict IA Total	**5,456**	**451,861**	**80,515**	**532,376**	**112,466**	**650,297**	**158,354**	**8,608**
Connecticut	1,405	101,831	17,740	119,571	22,952	143,928	29,398	2,972
Maine	1,177	56,272	5,061	61,333	5,552	68,062	36,344	1,925
Massachusetts	1,739	227,524	27,087	254,611	69,098	325,448	73,270	1,323
New Hampshire	9	25,583	15,788	41,371	8,442	49,823	9,074	1,112
Rhode Island	1,023	22,974	4,303	27,277	4,406	32,707	8,683	94
Vermont	103	17,676	10,536	28,212	2,015	30,329	1,586	1,183
Subdistrict IB Total	**24,943**	**817,672**	**256,105**	**1,073,777**	**319,685**	**1,418,405**	**384,288**	**24,817**
Delaware	291	7,395	2,681	10,076	2,146	12,513	4,439	127
District of Columbia	0	15,258	1,598	16,856	5,813	22,669	2,457	982
Maryland	1,217	60,794	14,327	75,121	7,825	84,163	24,545	1,820
New Jersey	6,589	212,903	59,083	271,986	64,360	342,936	34,083	5,406
New York	7,732	341,050	77,902	418,951	223,061	649,743	301,433	10,655
Pennsylvania	9,114	180,273	100,514	280,787	16,479	306,381	17,331	5,827
Subdistrict IC Total	**2,598**	**202,978**	**201,607**	**404,585**	**7,561**	**414,744**	**53,280**	**21,181**
Florida	871	33,934	81,867	115,801	–	116,672	37,683	7,313
Georgia	100	17,506	23,137	40,644	190	40,934	4,915	1,494
North Carolina	833	58,495	37,838	96,334	1,575	98,741	4,300	3,618
South Carolina	62	19,943	18,134	38,077	722	38,861	709	1,448
Virginia	93	60,296	33,370	93,666	5,002	98,760	4,001	5,750
West Virginia	639	12,804	7,261	20,065	73	20,776	1,673	1,559
PAD District II Total	**48,695**	**212,298**	**313,256**	**525,554**	**1,596**	**575,845**	**84,294**	**38,842**
Illinois	3,815	20,404	34,850	55,255	115	59,185	12,623	2,868
Indiana	4,914	20,029	23,550	43,579	10	48,503	19,484	1,805
Iowa	1,748	7,192	11,625	18,818	–	20,565	1,825	262
Kansas	1,112	3,967	8,923	12,890	–	14,002	550	745
Kentucky	3,390	13,858	10,013	23,871	–	27,261	14	7,440
Michigan	9,645	30,583	46,387	76,970	632	87,247	4,982	2,562
Minnesota	6,508	16,749	19,683	36,432	455	43,396	14,829	185
Missouri	2,153	9,826	26,903	36,729	4	38,886	1,924	561
Nebraska	1,274	3,697	4,590	8,287	–	9,561	2,397	132
North Dakota	947	3,879	2,978	6,856	–	7,804	1,515	24
Ohio	3,197	35,162	32,251	67,413	229	70,839	983	10,917
Oklahoma	1,811	7,899	17,069	24,968	–	26,779	2,513	4,004
South Dakota	1,512	3,489	4,252	7,741	–	9,253	1,245	13
Tennessee	1,027	4,271	22,602	26,873	–	27,900	2,911	7,037
Wisconsin	5,642	31,293	47,580	78,873	149	84,664	16,498	288
PAD District III Total	**3,384**	**63,778**	**258,977**	**322,756**	**104**	**326,243**	**615,925**	**204,003**
Alabama	36	15,389	36,146	51,535	–	51,571	289,682	6,220
Arkansas	5	7,174	11,295	18,469	–	18,475	–	812
Louisiana	188	6,527	28,782	35,309	–	35,497	146,525	15,021
Mississippi	26	11,406	24,484	35,889	–	35,915	7,563	2,084
New Mexico	294	131	20,824	20,954	–	21,249	–	6,121
Texas	2,835	23,152	137,447	160,599	104	163,537	172,155	173,744
PAD District IV Total	**8,452**	**10,185**	**56,772**	**66,956**	**155**	**75,564**	**18,811**	**3,318**
Colorado	2,209	462	19,952	20,414	–	22,623	1,880	3,186
Idaho	2,020	2,897	9,594	12,491	113	14,624	8,369	8
Montana	1,304	3,009	4,203	7,212	41	8,558	4,080	2
Utah	1,174	2,891	15,215	18,106	–	19,280	4,312	83
Wyoming	1,745	927	7,807	8,734	–	10,479	170	39
PAD District V Total	**20,119**	**93,559**	**262,593**	**356,152**	**21,373**	**397,644**	**222,075**	**48,797**
Alaska	7,579	16,538	10,418	26,956	95	34,630	–	55
Arizona	1,934	1,352	12,429	13,781	–	15,715	–	176
California	7,565	28,323	150,266	178,589	7,613	193,766	38,743	2,852
Hawaii	1,185	1,996	16,062	18,058	1,557	20,800	165,988	17
Nevada	339	3,980	11,576	15,557	–	15,896	90	327
Oregon	684	21,517	17,549	39,066	5,381	45,131	13,617	499
Washington	834	19,852	44,294	64,145	6,728	71,707	3,637	44,871

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

° Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 21. Adjusted Sales for Industrial and Oil Company Use: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Industrial Use								Oil Company Use	
	No. 2 Distillate									
	No. 1 Distillate	No. 2 Fuel Oil	No. 2 Diesel	No. 2 Total	No. 4 Fuel	Total Distillate	Residual Fuel Oil	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	69,337	687,636	1,677,756	2,365,392	130,564	2,565,293	3,712,664	171,124	845,217	403,191
PAD District I Total	7,443	391,367	365,953	757,320	82,423	847,186	737,517	44,228	38,334	63,584
Subdistrict IA Total	380	130,683	21,946	152,630	28,758	181,767	209,937	2,993	1,832	391
Connecticut	1	24,391	5,056	29,447	9,631	39,079	31,796	1,910	286	391
Maine	208	21,408	3,456	24,864	2,318	27,390	90,196	178	403	–
Massachusetts	9	67,350	6,365	73,715	10,964	84,689	64,904	758	763	–
New Hampshire	4	9,249	1,490	10,739	2,159	12,902	11,670	41	107	–
Rhode Island	–	2,646	4,593	7,239	1,995	9,234	9,435	5	249	–
Vermont	157	5,639	987	6,626	1,691	8,474	1,937	101	23	–
Subdistrict IB Total	2,940	141,404	136,872	278,276	39,067	320,283	243,230	30,755	31,843	61,249
Delaware	14	2,625	5,902	8,527	393	8,934	10,972	155	269	7,488
District of Columbia	–	14	12	26	81	107	5	–	–	–
Maryland	665	13,447	13,343	26,790	1,315	28,770	17,520	1,200	968	1,182
New Jersey	71	35,983	18,123	54,106	15,849	70,026	75,213	12,669	4,236	2,687
New York	99	34,482	17,417	51,899	10,050	62,048	81,785	13,446	10,284	1,094
Pennsylvania	2,091	54,854	82,075	136,928	11,379	150,398	57,735	3,285	16,087	48,798
Subdistrict IC Total	4,123	119,280	207,135	326,415	14,598	345,136	284,350	10,480	4,658	1,443
Florida	97	4,902	34,304	39,206	656	39,961	54,674	1,910	979	39
Georgia	184	11,468	28,660	40,128	3,367	43,679	32,008	1,087	280	403
North Carolina	276	48,977	27,282	77,258	3,573	81,108	86,686	2,454	81	866
South Carolina	48	10,562	12,794	23,356	1,403	24,867	37,774	2,180	299	201
Virginia	538	30,517	37,968	68,485	4,996	74,019	54,832	1,615	1,088	435
West Virginia	2,979	11,854	66,128	77,981	541	81,502	18,375	1,230	1,931	–
PAD District II Total	30,373	183,685	128,305	611,989	17,098	659,460	532,366	21,740	60,550	167,054
Illinois	3,480	18,601	53,546	72,147	37	75,664	63,350	2,706	6,078	59,760
Indiana	4,027	13,409	55,520	68,930	11,941	84,897	96,479	2,484	930	52,259
Iowa	1,308	6,141	6,009	12,149	–	13,458	8,305	144	71	–
Kansas	772	2,622	7,007	9,628	–	10,401	14,277	317	8,024	2,612
Kentucky	2,128	39,010	98,685	137,695	102	139,924	17,917	7,564	683	8,237
Michigan	1,606	18,938	28,944	47,882	593	50,080	88,165	2,387	1,353	9,844
Minnesota	7,295	21,814	7,562	29,376	126	36,800	30,950	45	524	12,715
Missouri	3,125	9,004	20,923	29,927	378	33,430	23,218	282	315	–
Nebraska	418	1,780	2,740	4,520	109	5,046	14,973	24	22	–
North Dakota	1,602	4,399	11,824	16,223	–	17,825	5,267	5	4,421	9,313
Ohio	1,341	28,245	79,306	107,551	2,517	111,409	91,119	4,300	6,153	7,149
Oklahoma	292	3,961	18,028	21,989	–	22,281	18,735	386	30,983	–
South Dakota	754	1,506	2,884	4,390	–	5,144	2,407	1	12	–
Tennessee	49	4,251	26,091	30,342	1,293	31,685	21,824	860	551	262
Wisconsin	2,175	10,004	9,237	19,241	–	21,416	35,382	234	430	4,904
PAD District III Total	2,523	47,016	381,603	428,618	1,772	432,914	2,150,896	99,644	675,879	8,893
Alabama	745	9,248	71,249	80,498	–	81,243	199,364	2,949	9,997	–
Arkansas	10	2,878	19,952	22,830	77	22,918	137,335	4,684	4,913	–
Louisiana	–	967	22,306	23,273	957	24,230	822,444	20,369	328,594	292
Mississippi	579	5,707	16,545	22,252	738	23,570	621,730	4,625	18,459	–
New Mexico	479	788	42,976	43,764	–	44,243	85,444	18,693	11,533	–
Texas	709	27,427	208,575	236,002	–	236,711	284,579	48,325	302,383	8,601
PAD District IV Total	20,798	27,648	149,249	176,897	–	197,695	52,126	172	20,914	95,539
Colorado	3,246	17,457	14,557	32,015	–	35,260	4,581	104	1,316	–
Idaho	2,573	4,733	22,782	27,515	–	30,087	6,042	4	8	–
Montana	4,812	755	40,312	41,068	–	45,880	434	–	1,093	51,763
Utah	2,120	3,092	26,902	29,994	–	32,114	38,254	19	4,459	37,329
Wyoming	8,046	1,612	44,695	46,307	–	54,353	2,815	46	14,038	6,447
PAD District V Total	8,200	37,920	352,647	390,567	29,271	428,039	239,760	5,341	49,540	68,121
Alaska	1,971	3,369	25,153	28,522	4,989	35,482	–	7	27,330	–
Arizona	14	922	57,832	58,754	782	59,550	299	3,088	67	–
California	611	9,253	136,428	145,681	21,980	168,271	118,003	1,484	19,399	21,854
Hawaii	14	518	3,558	4,076	–	4,090	6,223	8	923	33,954
Nevada	4,198	1,397	89,326	90,723	74	94,996	2,971	217	321	331
Oregon	764	9,947	16,674	26,621	202	27,587	18,666	167	279	139
Washington	628	12,513	23,677	36,190	1,244	38,062	93,598	369	1,222	11,843

Dashes (–) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.
• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 22. Adjusted Sales for Farm Use: Distillate Fuel Oil and Kerosene; Adjusted Sales for Electric Utility Use: Distillate Fuel Oil and Residual Fuel Oil, 1989

(Thousand Gallons)

Destination	Farm				Electric	
	Diesel	Other Distillate	Total Distillate	Kerosene	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	**3,043,967**	**152,961**	**3,196,928**	**36,907**	**1,078,887**	**9,797,966**
PAD District I Total	**339,053**	**59,044**	**398,098**	**7,992**	**627,397**	**8,601,468**
Subdistrict IA Total	**10,976**	**8,005**	**18,981**	**1,048**	**39,534**	**2,310,284**
Connecticut	1,498	1,022	2,520	5	5,386	749,254
Maine	3,325	1,216	4,540	559	2,915	219,634
Massachusetts	1,012	1,898	2,910	43	24,448	1,103,079
New Hampshire	742	1,219	1,961	26	3,306	215,811
Rhode Island	98	101	199	0	1,961	22,506
Vermont	4,301	2,550	6,851	414	1,517	-
Subdistrict IB Total	**97,439**	**46,842**	**144,281**	**4,255**	**401,417**	**4,330,729**
Delaware	4,854	687	5,541	8	14,312	173,374
District of Columbia	-	-	-	-	71,970	-
Maryland	20,811	3,108	23,920	851	63,558	404,651
New Jersey	12,213	6,901	19,113	4	54,808	525,982
New York	29,509	19,360	48,870	2,340	114,115	2,784,305
Pennsylvania	30,052	16,786	46,838	1,052	82,654	442,417
Subdistrict IC Total	**230,638**	**4,197**	**234,835**	**2,689**	**186,446**	**1,960,456**
Florida	47,494	39	47,533	36	79,629	1,726,877
Georgia	82,960	5	82,966	27	16,155	618
North Carolina	37,854	1,730	39,584	873	22,419	-
South Carolina	26,966	428	27,394	605	11,880	-
Virginia	31,132	1,266	32,398	733	33,892	232,962
West Virginia	4,232	728	4,960	416	22,472	-
PAD District II Total	**1,317,155**	**76,265**	**1,393,420**	**11,605**	**188,359**	**197,418**
Illinois	159,084	11,494	170,578	580	24,651	71,844
Indiana	76,272	7,916	84,188	899	29,115	-
Iowa	139,896	7,688	147,584	598	4,832	-
Kansas	129,682	2,722	132,404	531	7,468	-
Kentucky	36,702	1,900	38,602	942	17,107	-
Michigan	56,980	2,850	59,830	320	37,769	87,400
Minnesota	124,001	5,423	129,423	2,162	6,384	7
Missouri	77,957	1,366	79,324	412	9,620	14,460
Nebraska	143,507	2,130	145,637	451	3,902	2,531
North Dakota	84,688	5,205	89,892	16	4,302	243
Ohio	67,887	6,931	74,818	3,501	21,269	20,933
Oklahoma	41,123	-	41,123	101	542	-
South Dakota	66,814	7,683	74,497	214	862	-
Tennessee	39,575	22	39,597	438	3,447	-
Wisconsin	72,988	12,935	85,923	441	17,090	-
PAD District III Total	**728,130**	**11,887**	**740,018**	**15,844**	**114,885**	**75,420**
Alabama	59,101	1,220	60,320	272	10,486	-
Arkansas	91,831	275	92,106	1,383	11,073	5,726
Louisiana	91,536	218	91,754	3,589	20,371	8,524
Mississippi	133,228	10	133,238	4,480	5,072	51,407
New Mexico	16,925	-	16,925	424	6,351	1,775
Texas	335,510	10,165	345,675	5,695	61,532	7,988
PAD District IV Total	**193,012**	**3,138**	**196,150**	**377**	**18,933**	**39**
Colorado	53,986	671	54,657	301	5,161	3
Idaho	67,921	345	68,266	11	27	-
Montana	52,549	1,310	53,859	44	2,552	-
Utah	9,343	313	9,656	11	4,293	-
Wyoming	9,214	499	9,713	11	6,899	36
PAD District V Total	**466,616**	**2,627**	**469,243**	**1,089**	**129,313**	**923,621**
Alaska	257	-	257	-	21,953	-
Arizona	31,647	-	31,647	27	4,382	3,393
California	302,115	10	302,124	823	19,719	372,937
Hawaii	10,013	1,119	11,132	0	74,240	522,447
Nevada	5,048	139	5,187	70	2,639	24,844
Oregon	49,175	70	49,245	88	5,363	-
Washington	68,362	1,288	69,650	81	1,017	-

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Electric Utility data are based on data obtained on Form EIA-759, "Monthly Power Plant Report," and Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 23. Adjusted Sales for Transportation Use: Distillate Fuel Oil and Residual Fuel Oil, 1989

(Thousand Gallons)

Destination	Railroad Use		Vessel Bunkering		On-Highway Diesel	Total Transportation Use	
	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil	Distillate Fuel Oil	Distillate Fuel Oil	Residual Fuel Oil
U.S. Total	3,264,229	151	2,356,444	5,410,263	21,131,692	26,752,365	5,410,414
PAD District I Total	**555,279**	**-**	**453,313**	**955,481**	**6,752,738**	**7,761,330**	**955,481**
Subdistrict IA Total	**35,317**	**-**	**59,061**	**34,218**	**827,956**	**922,334**	**34,218**
Connecticut	5,413	-	1,956	236	257,361	264,730	236
Maine	6,424	-	12,263	3,962	139,908	158,595	3,962
Massachusetts	19,733	-	38,242	29,557	271,944	329,919	29,557
New Hampshire	36	-	337	-	59,561	59,934	-
Rhode Island	534	-	5,896	464	52,932	59,362	464
Vermont	3,177	-	367	-	46,250	49,794	-
Subdistrict IB Total	**179,628**	**-**	**166,937**	**524,719**	**2,571,926**	**2,918,491**	**524,719**
Delaware	1,038	-	3,259	28,740	74,089	78,386	28,740
District of Columbia	13,287	-	22	-	23,064	36,373	-
Maryland	41,025	-	8,709	64,120	351,150	400,884	64,120
New Jersey	62,696	-	119,169	288,946	453,482	635,348	288,946
New York	17,584	-	9,925	11,822	754,276	781,785	11,822
Pennsylvania	43,997	-	25,854	131,091	915,865	985,716	131,091
Subdistrict IC Total	**340,335**	**-**	**227,315**	**396,544**	**3,352,856**	**3,920,506**	**396,544**
Florida	85,557	-	89,628	257,318	899,369	1,074,554	257,318
Georgia	65,938	-	34,882	20,346	838,847	939,668	20,346
North Carolina	37,167	-	8,638	19,099	614,485	660,290	19,099
South Carolina	30,946	-	5,381	17,892	302,614	338,941	17,892
Virginia	94,408	-	25,289	81,889	537,569	657,266	81,889
West Virginia	26,318	-	63,497	-	159,972	249,786	-
PAD District II Total	**1,335,990**	**1**	**380,790**	**18,710**	**7,253,324**	**8,970,104**	**18,711**
Illinois	139,446	-	32,932	2,671	839,968	1,012,346	2,671
Indiana	227,166	-	9,233	9,908	784,441	1,020,841	9,908
Iowa	33,941	1	2,403	-	349,044	385,388	1
Kansas	169,928	-	-	-	303,893	473,821	-
Kentucky	116,502	-	98,114	-	692,215	906,831	-
Michigan	42,684	-	4,558	5,397	528,906	576,148	5,397
Minnesota	39,444	-	2,674	73	331,625	373,743	73
Missouri	34,875	-	44,001	-	541,680	720,556	-
Nebraska	122,799	-	66	-	208,258	331,124	-
North Dakota	36,451	-	-	-	90,544	126,995	-
Ohio	123,607	-	8,442	451	960,195	1,092,244	451
Oklahoma	78,303	-	266	-	394,174	472,743	-
South Dakota	2,374	-	-	-	91,221	93,595	-
Tennessee	62,179	-	175,079	22	587,396	824,654	22
Wisconsin	106,289	-	3,022	187	449,764	559,075	187
PAD District III Total	**640,845**	**-**	**998,618**	**1,897,207**	**3,221,237**	**4,860,701**	**1,897,207**
Alabama	67,231	-	139,715	97,958	544,882	751,828	97,958
Arkansas	35,200	-	666	-	395,236	431,102	-
Louisiana	78,996	-	460,005	845,590	385,621	924,623	845,590
Mississippi	17,890	-	75,914	42,127	302,523	396,327	42,127
New Mexico	52,161	-	-	-	205,916	258,077	-
Texas	389,367	-	322,318	911,532	1,387,059	2,098,744	911,532
PAD District IV Total	**312,449**	**129**	**134**	**-**	**734,904**	**1,047,487**	**129**
Colorado	88,610	-	64	-	185,519	274,193	-
Idaho	19,728	-	71	-	117,246	137,044	-
Montana	59,283	-	-	-	119,503	178,786	-
Utah	34,842	58	-	-	125,184	160,026	58
Wyoming	109,985	72	-	-	187,452	297,437	72
PAD District V Total	419,666	21	523,588	**[a] 2,538,865**	3,169,489	4,112,743	2,538,886
Alaska	4,963	-	132,087	4,313	96,446	233,497	4,313
Arizona	8,348	-	-	-	314,671	323,019	-
California	218,393	-	198,830	1,791,584	1,913,647	2,330,870	1,791,584
Hawaii	17	-	82,832	78,996	23,717	106,566	78,996
Nevada	23,511	-	-	-	131,055	154,566	-
Oregon	86,388	21	34,274	173,342	311,843	432,505	173,363
Washington	78,045	-	75,565	490,630	378,110	531,720	490,630

[a] See Technical Note 3 for adjustment to vessel bunkering data.

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

• Railroad data for distillate fuel oil are based on Association of American Railroads' statistics for railroads of Class I and Amtrak Companies.

• Vessel Bunkering data for residual fuel oil are based on EIA estimates of intercoastal bunkering and the Bureau of the Census Report, "United States Foreign Trade, Bunker Fuels."

• On-Highway Diesel data are Federal Highway Administation statistics of highway special fuels use.

• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Table 24. Adjusted Sales for Military, Off-Highway, and All Other Uses: Distillate Fuel Oil, Residual Fuel Oil, and Kerosene, 1989

(Thousand Gallons)

Destination	Military				Off-Highway Diesel Distillate Fuel Oil			All Other		
	Diesel	Other Distillate	Total Distillate	Residual Fuel Oil	Construction	Other	Total	Distillate Fuel Oil	Residual Fuel Oil	Kerosene
U.S. Total	**859,341**	**68,975**	**928,316**	**105,255**	**1,454,992**	**182,505**	**1,637,497**	**29,106**	**36,298**	**115,750**
PAD District I Total	**85,164**	**56,203**	**141,367**	**90,853**	**424,924**	**36,712**	**461,637**	**11,307**	**84**	**24,205**
Subdistrict IA Total	**10,919**	**4,183**	**15,102**	**25,823**	**60,350**	**6,152**	**66,502**	**597**	**-**	**3,908**
Connecticut	64	547	611	3,097	16,681	32	18,713	480	-	2,998
Maine	2,723	261	2,984	4,085	9,045	3,790	12,836	39	-	259
Massachusetts	1,267	721	1,988	14,388	18,204	15	18,219	-	-	375
New Hampshire	304	1,237	1,542	1,049	6,436	1,237	7,674	-	-	223
Rhode Island	6,490	1,258	7,748	2,850	3,342	1	3,344	79	-	18
Vermont	71	159	229	354	4,640	1,077	5,717	-	-	35
Subdistrict IB Total	**27,369**	**28,260**	**55,629**	**40,918**	**171,541**	**9,455**	**180,995**	**3,338**	**-**	**17,856**
Delaware	-	85	85	-	4,199	3	4,202	-	-	17
District of Columbia	7	2,989	2,996	2,115	31	-	31	-	-	-
Maryland	14,786	7,550	22,336	23,688	31,034	1,131	32,165	2,569	-	92
New Jersey	4,125	4,999	9,124	2,892	50,622	1,830	52,452	48	-	1,751
New York	5,933	4,477	10,410	8,815	34,610	5,689	40,298	3	-	15,137
Pennsylvania	2,518	8,159	10,677	3,408	51,045	802	51,847	718	-	859
Subdistrict IC Total	**46,876**	**23,760**	**70,636**	**24,112**	**193,034**	**21,105**	**214,139**	**7,371**	**84**	**2,441**
Florida	20,292	13	20,305	7,460	62,124	3,503	65,627	1,307	-	411
Georgia	8,682	471	9,153	1,947	35,307	2,872	38,179	1,610	-	200
North Carolina	6,797	997	7,794	4,214	25,257	1,398	26,655	2,234	84	439
South Carolina	2,078	478	2,557	6,343	15,763	10,839	26,601	908	-	697
Virginia	8,914	21,750	30,664	4,149	35,538	1,182	36,720	1,299	-	526
West Virginia	111	51	163	-	19,046	1,312	20,358	13	-	168
PAD District II Total	**38,954**	**5,617**	**44,570**	**4,291**	**321,326**	**19,024**	**340,350**	**13,925**	**549**	**6,322**
Illinois	3,873	557	4,430	-	37,156	396	37,553	161	-	1,082
Indiana	6,441	128	6,569	-	28,023	1,442	29,465	2,819	-	183
Iowa	246	26	272	10	8,602	994	9,595	1,876	-	338
Kansas	751	104	855	-	10,865	1,487	12,352	1,601	-	134
Kentucky	4,550	869	5,419	-	21,153	658	21,811	19	-	420
Michigan	2,636	510	3,146	-	43,959	1,438	45,397	1,744	74	411
Minnesota	1,818	212	2,030	-	23,632	2,532	26,163	1,818	153	63
Missouri	3,204	1,790	4,994	3,709	20,477	1,022	21,499	1,165	-	803
Nebraska	988	75	1,063	-	16,834	248	17,083	-	19	12
North Dakota	1,334	10	1,344	-	3,942	567	4,509	194	303	12
Ohio	8,432	165	8,597	-	27,145	819	27,963	335	-	2,328
Oklahoma	1,099	392	1,491	-	20,653	1,394	22,047	227	-	65
South Dakota	486	26	512	2	5,543	100	5,642	540	-	35
Tennessee	2,301	484	2,785	571	24,604	2,015	26,619	650	-	357
Wisconsin	795	269	1,064	-	28,739	3,913	32,652	776	-	79
PAD District III Total	**442,078**	**101**	**442,179**	**1,229**	**337,956**	**39,013**	**376,969**	**3,425**	**-**	**84,048**
Alabama	6,235	100	6,335	1,229	53,194	10,677	63,870	1,999	-	4,201
Arkansas	2,069	-	2,069	-	22,855	9,274	32,128	63	-	672
Louisiana	83,075	-	83,075	-	53,626	1,348	54,974	275	-	19,230
Mississippi	73,437	1	73,439	-	27,743	5,833	33,576	162	-	6,870
New Mexico	912	-	912	-	20,578	906	21,484	48	-	653
Texas	276,348	-	276,348	-	159,960	10,976	170,936	879	-	52,423
PAD District IV Total	**11,504**	**2,244**	**13,748**	**-**	**82,778**	**10,833**	**93,611**	**450**	**1,524**	**174**
Colorado	8,353	-	8,353	-	26,900	455	27,355	46	-	159
Idaho	738	-	738	-	11,009	2,964	13,872	26	-	2
Montana	218	132	351	-	8,981	7,008	15,989	25	1,331	2
Utah	2,008	2,111	4,120	-	18,214	337	18,551	-	-	5
Wyoming	186	-	186	-	17,674	170	17,844	353	193	6
PAD District V Total	**281,642**	**4,810**	**286,451**	**8,882**	**288,007**	**76,921**	**364,928**	**-**	**34,141**	**1,001**
Alaska	33,958	117	34,075	-	8,588	5,393	13,980	-	-	20
Arizona	2,246	7	2,253	-	35,516	2,461	37,978	-	-	104
California	205,471	-	205,471	-	167,842	25,418	193,260	-	-	644
Hawaii	31,149	-	31,149	3,647	5,371	56	5,428	-	34,069	-
Nevada	3,613	787	4,401	-	23,805	261	24,066	-	-	191
Oregon	682	51	733	-	15,795	28,782	44,577	-	72	27
Washington	4,523	3,847	8,370	5,235	31,090	14,550	45,640	-	-	15

Dashes (-) = No data reported.

Note: Totals may not equal sum of components due to independent rounding.

Sources: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.
• Military data for residual fuel oil are based on Defense Fuel Supply Center's "DEIS Report."
• Energy Information Administration's "Petroleum Supply Annual," Volume 1, 1989, (DOE/EIA-0340(89)/1).

Technical Notes

Note 1: EIA-821: Annual Fuel Oil and Kerosene Sales Report, 1989

Background

The EIA-821, "Annual Fuel Oil and Kerosene Sales Report" survey was implemented to meet Energy Information Administration (EIA) legislative mandates and data user needs. Form EIA-821 is used to gather data on the sales to end users of distillate fuel oil, residual fuel oil, and kerosene. The data are used to determine the level of demand by end-use category and product at the State, regional, and national levels. This mandatory report is authorized by the Federal Energy Administration Act of 1974 (P. L. 93-275).

The predecessor survey to the EIA-821 was the EIA-172, "Sales Report of Fuel Oil and Kerosene" survey. The EIA-172 was conducted for reference years 1979 through 1982. Due to a serious deterioration in the sample of respondents during the 4-year period, the Form EIA-172 data were not collected for 1983. Instead, estimates for 1983 were published and a new sample of respondents was designed and selected from an improved sampling frame. The EIA-821 survey commenced with reference year 1984.

Discussion of Sampling Frame

The target population for the fuel oil and kerosene sales survey is the universe of companies that sell fuel oil and kerosene to end users.

The EIA-863 data base provided the sampling frame for the 1989 EIA-821 survey. The EIA-863, "Petroleum Product Sales Identification Survey," was mailed to approximately 27,000 companies in January 1989 to collect 1988 State-level sales volume data for No. 2 distillate, residual fuel, and motor gasoline. Companies also indicated if they sold kerosene. The No. 2 distillate data were further identified by residential and nonresidential end use, and non-end-use sales; the residual and motor gasoline data were identified by end use and non-end-use sales. The mailing list for the EIA-863 survey was constructed by merging and unduplicating the 1985 frame file and more than 51 State and commercial lists. In addition, company/State-level volumes for distillate fuel oil, residual fuel oil, and motor gasoline from the 1988 EIA-821 survey were merged with the EIA-863 to yield a combined data file. The transformed and edited version of the frame was then used to design and select the 1989 EIA-821 sample.

It should be noted that truck stops selling No. 2 diesel fuel were not specifically included in the EIA-863 survey. Therefore, the EIA-821 survey does not include all sales of No. 2 distillate through retail truck stops. However, to compensate for this shortage in coverage, data from the Federal Highway Administration are presented in the tables for on-highway diesel sales.

The sampling frame also lacked full coverage of kerosene retailers, many of whom are hardware stores and service stations. To account for all kerosene volumes supplied to the marketplace, aggregate reported kerosene volumes are set equal to the products supplied volumes published in the *Petroleum Supply Annual*.

Discussion of the Sample Design

The purpose of the EIA-821 sample design was to produce State-level estimates of total sales for the following five target variables: (1) residential No. 2 distillate, (2) other retail No. 2 distillate, (3) wholesale No. 2 distillate, (4) retail residual, and (5) wholesale residual. A separate sample was initially designed for each target variable.

Companies were divided into two basic types of strata: certainty and noncertainty. Companies selected with certainty were:

- all refiners and gas plant operators
- companies doing business in four or more States
- companies accounting for 5 percent or more of the distillate or residual fuel oil volume for any target variable or particular end-use category sold in a State

- companies accounting for 5 percent or more of the kerosene volume sold in a State in earlier EIA-821 surveys
- augmented frame units, e.g., vessel bunkering for which no attribute data were available.

Firms determined not to be selling distillate or residual fuel oil or kerosene were removed from the frame file. Volumes for nonrespondents to the EIA-863 who had reported in the previous frame survey or in a sample survey were imputed. The imputed nonrespondents and the noncertainty companies were stratified by sales volume for each target variable. Strata boundries were determined using the Dalenius-Hodges procedures, allowing the number of strata and the strata boundries to vary by State. Nonrespondents for whom no previous information was available were classified in a separate stratum and sampled with reduced probabilities of selection.

Neyman allocation was used to allocate the number of companies required for each strata to obtain the required levels of accuracy: a 2.5 percent coefficient of variation for residual fuel oil and a 5 percent coefficient of variation for distillate fuel oil. Sample selections were then performed simultaneously from the same random list for the five samples to produce a final linked sample of approximately 5,500 companies. This method reduced the total survey sample size while improving volume estimates. Selected companies were asked to report sales by end-use category of distillate and residual fuel oil and kerosene.

Imputation and Estimation

Survey data gathered from the respondents may contain incomplete reporting, total nonresponse, or values that fail editing. Missing data are estimated, or implicitly imputed for, using the strata means and treated the same as reported data. The weighted estimate is defined as follows:

$$\hat{V} = \Sigma_h N_h (\Sigma_i W_{hi} V_{hi} / \Sigma_i W_{hi})$$

where:

$\hat{V}$ = total estimated volume,
Σ_h = denotes summation over strata,
N_h = stratum population for stratum h,
Σ_i = denotes summation over units within stratum h,
V_{hi} = volume reported for unit i in stratum h,
W_{hi} = weight attached to unit i in stratum h.

where: W_{hi} is inversely proportional to the probability of inclusion in the linked sample.

The degree of imputation by product and end use at the U.S. total level ranged as follows for the 1989 EIA-821 data: distillate, 0.4 percent for all other use to 6.8 percent for residential use; residual fuel oil, 0.006 percent for all other use to 8.8 percent for commercial use; and kerosene, 1.0 percent for industrial use to 4.7 percent for all other use.

Collection Methods

The EIA-821 form was mailed in January 1990 to all companies selected for participation in the 1989 reference year survey. The completed form was due to EIA on March 1, 1990. A second request was sent by certified mail to nonrespondents approximately 1 month after the filing deadline. Follow-up telephone calls were made to collect outstanding data and to verify reported data. Late submissions and resubmissions were processed when received.

Data Processing

As EIA-821 forms were received, they were logged into an automated Survey Control File which maintained company identification and survey form status information for each company selected to participate in the survey. The data were reviewed manually, entered onto the computer files, and then processed through an automated edit program which detected missing data and outlying values. Data that failed the edits were resolved through telephone calls to the data reporters and corrections were entered onto the computer files. Preliminary estimates were generated and processed through a series of validation procedures to flag and rectify potential misreporting of data. Statistical reports, including publication tables, were produced using only acceptable and verified data.

Note 2: Reliability of the Data

Two types of errors are associated with data produced from a sample survey---sampling errors and nonsampling errors. Sampling errors occur because the estimates are based on a sample rather than on a census. The particular sample used for the EIA-821 survey is one of a large number of samples of equal size which could have been selected from the sampling frame using the same sample design. Each of these samples would produce a different estimate. If the estimates were averaged over all possible samples, the result would be the same as the estimate derived from a census of the sampling frame. The sampling error is a measure of variability among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the results of a census.

Nonsampling errors and possibly biases can arise from a number of sources: (1) inability to obtain information about all cases in the sample, (2) response errors, (3) differences in the interpretation of questions or definitions, (4) mistakes in recording or coding of the data obtained, and (5) other errors of collection, response, coverage, and estimation for missing data. Bias is the difference between the average of the estimates over all possible samples of the same size and design, and the true value being estimated. It is not possible to estimate bias using the results of one sample.

Data obtained from alternate sources are not subject to sampling errors, but may be subject to nonsampling errors, the magnitudes of which are unknown. For example, kerosene estimates may have more nonsampling errors due to a lack of coverage of kerosene retailers. Nonsampling errors for survey estimates and estimates adjusted to alternate sources cannot be determined, but attempts are made throughout survey processing to minimize this type of error.

Data in Tables 1 through 12 are based on survey data which are subject to sampling errors. Coefficients of variation, which are estimates of sampling errors, are presented for the retail target variables in the following table for the 1989 survey. The coefficients of variation (CV) were estimated by:

$$\hat{CV}(\hat{V}) = \frac{\sqrt{\hat{VAR}(\hat{V})}}{\hat{V}}$$

where:

$$\hat{VAR}(\hat{V}) = \sum_{h} n_h\left(1 - \frac{n_h}{N_h}\right)S_h^2$$

$$S_h^2 = \frac{\sum_{i=1}^{n_h} W_i^2 V_i^2 + \bar{V}_h^2 \sum_{i=1}^{n_h} W_i^2 - 2\bar{V}_h \sum_{i=1}^{n_h} W_i^2 V_i}{n_h - 1}$$

$$\bar{V}_h = \frac{\sum_{i=1}^{n_h} W_i V_i}{\sum_{i=1}^{n_h} W_i}$$

$\hat{V}$ = total estimated volume,
N_h = stratum population for stratum h,
n_h = number of sample units in stratum h,
V_i = volume for unit i,
W_i = weight for unit i.

Response rates also offer some indication of the reliability and comprehensiveness of survey results. For the 1989 EIA-821 survey, the overall response rate (the number of submissions received, divided by the number of submissions solicited and expected, times 100) was 92.3 percent.

Coefficients of Variation for Sales of Fuel Oil, 1989

Geographic Area	Residential Distillate Fuel Oil	Non-Residential Retail Distillate Fuel Oil	Retail Residual Fuel Oil
U.S. Average	**1.8**	**0.8**	**0.3**
PAD District I Average	**2.2**	**1.3**	**.3**
Subdistrict IA Average	**2.8**	**1.8**	**.5**
Connecticut	6.8	4.8	.2
Maine	5.8	3.2	.1
Massachusetts	4.5	3.1	1.0
New Hampshire	6.6	2.7	0
Rhode Island	4.2	3.3	.1
Vermont	4.8	3.5	0
Subdistrict IB Average	**3.5**	**1.7**	**.6**
Delaware	3.5	1.7	0
District of Columbia	4.1	.1	0
Maryland	4.7	2.8	.2
New Jersey	4.5	2.8	.3
New York	7.2	2.6	1.1
Pennsylvania	4.8	4.2	.7
Subdistrict IC Average	**3.2**	**2.5**	**.2**
Florida	13.7	6.2	.1
Georgia	7.3	7.0	1.5
North Carolina	5.4	3.0	2.1
South Carolina	7.6	6.0	.2
Virginia	5.3	5.0	.3
West Virginia	6.6	3.1	0
PAD District II Average	**2.1**	**.9**	**.4**
Illinois	9.4	3.3	.8
Indiana	5.8	3.0	.3
Iowa	6.9	3.0	4.0
Kansas	11.2	2.9	0
Kentucky	4.8	2.0	.1
Michigan	5.4	2.9	1.6
Minnesota	5.4	4.5	.8
Missouri	7.1	3.5	1.2
Nebraska	9.2	4.0	0
North Dakota	5.5	7.3	.1
Ohio	6.4	2.8	.1
Oklahoma	62.5	5.8	0
South Dakota	7.1	3.9	.1
Tennessee	8.8	2.4	0
Wisconsin	5.2	3.3	3.3
PAD District III Average	**12.0**	**2.6**	**.3**
Alabama	17.6	4.1	0
Arkansas	9.1	5.0	0
Louisiana	25.9	2.9	0
Mississippi	16.4	6.5	0
New Mexico	22.7	3.8	0
Texas	41.2	4.9	.7
PAD District IV Average	**6.9**	**2.0**	**.6**
Colorado	11.5	3.6	0
Idaho	7.0	4.8	.3
Montana	19.2	8.0	1.7
Utah	6.7	2.7	0
Wyoming	8.3	3.0	0
PAD District V Average	**2.4**	**2.1**	**1.1**
Alaska	3.5	3.8	0
Arizona	0	6.5	.1
California	10.5	3.4	1.8
Hawaii	0	1.0	.1
Nevada	3.8	2.0	0
Oregon	5.8	5.0	1.3
Washington	3.7	4.1	.1

Note: Coefficients of variation that are less than 0.1 and greater than zero are displayed as 0.1.
Source: • Energy Information Administration Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report," for 1989.

Note 3: Data Adjustments

Alternate Source Data

After all preliminary tabulations were verified, comparisons were made between the survey results and available alternate source data. The following end-use categories were replaced by alternate source data at the U.S., Petroleum Administration for Defense (PAD) district, or State level:

Tables 1 through 12:

On-Highway Diesel. Distillate fuel oil by State was calculated from the Federal Highway Administration data on highway use of special fuels. Of the 1985 through 1989 special fuels, more than 98 percent is diesel.

Tables 13 through 24:

Electric Utility. National-level distillate and residual fuel oil sales for electric utility use were calculated from annual aggregations of data collected on forms EIA-759, "Monthly Power Plant Report," and FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." Form EIA-759 consumption data for light oils include No. 2 fuel oil, kerosene, and jet fuel; the heavy oils include No. 4 fuel oil, residual fuel oil, and crude oil. Using receipt data from Form FERC-423, the No. 4 fuel oil receipts were deleted from the heavy oil consumption data and added to the light oil consumption data. The resultant distillate (light oils) and residual (heavy oils) consumption data were added to the stock change of light oils and heavy oils, respectively, from Form EIA-759 to obtain the estimate of sales. Allocations at the State level were based on the EIA-821 survey.

Military. The national data on residual fuel oil issued to defense installations (Defense Fuel Supply Center's Defense Energy Information System (DFSC DEIS) Report) were allocated by State based on the EIA-821 survey.

On-Highway Diesel. Distillate fuel oil by State was calculated from the Federal Highway Administration data on highway use of special fuels. Of the 1985 through 1989 special fuels, more than 98 percent is diesel.

Railroad. Distillate fuel oil used by Class I railroads and Amtrak at the U.S. level was obtained from the Association of American Railroads. State-level allocations were based on the EIA-821 survey.

Vessel Bunkering. Residual fuel oil used for foreign trade vessel bunkering at the PAD district level was obtained from the Bureau of Census, *United States Foreign Trade, Bunker Fuels.* To account for all vessel bunkering, including coastal trade, historically established PAD district-level ratios of total vessel bunkering use to foreign trade use were used to inflate the foreign trade bunkering values. The adjustment factor for PAD District V, however, was changed in 1988 and 1989. Had the PAD District V estimate been adjusted using the historical factor, the vessel bunkering data in this PAD district and at the national level would have been 406,883 thousand gallons higher than the published estimates for 1988 and 413,834 thousand gallons higher than the published estimates for 1989.

Allocations at the State level were based on the EIA-821 survey, except for the States in PAD District II. For this region, which includes the Great Lakes, the EIA-821 survey results were used since the Census report, based on the U.S. Custom Service's data, did not provide adequate coverage.

1985 through 1989 Adjustments

Kerosene volumes in Tables 1 through 12 were adjusted at the national level to equal products supplied volumes as published in the "Detailed Statistics" section of the *Petroleum Supply Annual,* 1985 through 1989. The 1989 survey resulted in 931,016 thousand gallons of kerosene at the national level. The products supplied volume at the national level for kerosene was 1,291,668 thousand gallons. Hence, the adjustment factor at the national level for 1989 was 1.387.

Volumes in Tables 13 through 24 were adjusted at the PAD district level to equal products supplied volumes. The adjustment factors for distillate and residual fuel and kerosene at the PAD district level for 1989 are as follows:

Distillate Fuel Oil

- PAD District I: .87
- PAD District II: .83
- PAD District III: 1.37
- PAD District IV: 1.03
- PAD District V: .96

Residual Fuel Oil

- PAD District I: .41
- PAD District II: 1.18
- PAD District III: 12.37
- PAD District IV: 6.77
- PAD District V: 1.10

Kerosene

- PAD District I: .68

- PAD District II: 1.50
- PAD District III: 14.16
- PAD District IV: .67
- PAD District V: 2.28

For Tables 13 through 24, total sales at the PAD district level equal the products supplied volumes as reported in the *Petroleum Supply Annual* (PSA), 1985 through 1989. For example, the 1989 survey yielded a volume for distillate residential use in PAD District II of 1,404,069 thousand gallons. The total distillate volume for PAD District II was 5,583,539 from the survey, after subtracting the volume coming from alternate sources. The product supplied total distillate volume for PAD District II was 4,634,271 after removing alternate source volume. Hence, the adjusted 1989 estimate of distillate for residential use in PADD II was (4,634,271/5,583,539) x 1,404,069 = 1,165,361.

For distillate fuel oil in Tables 13 through 24, the PAD district adjustments were made to each State and product-use category except on-highway diesel use, electric utility use, and railroad use. For residual fuel oil, the adjustments were made to each State and end-use category except military use, vessel bunkering use, and electric utility use.

Note 4: End-Use Descriptions and Petroleum Product Definitions

End-Use Descriptions

Residential Use. Includes sales for use in private households for space heating, water heating, cooking, etc. Sales to farm houses are reported under "Farm Use."

Commercial Use. Includes sales for use in nonmanufacturing establishments such as motels, apartment buildings, restaurants, retail stores, institutions, government buildings, schools, and laundries for space heating, water heating, and cooking. Volumes used by companies in the marketing and distribution of petroleum products are also included.

Industrial Use. Includes sales to mines, smelters, and plants engaged in producing manufactured products, processing and assembling goods, etc. Also includes space heating. Excludes oil company use, as defined below.

Oil Company Use. Includes sales to drilling companies, pipelines or other related oil companies not engaged in the selling of petroleum products. Includes fuel oil that was purchased or produced and used by company facilities for the operation of drilling equipment, other field or refinery operations, and space heating at petroleum refineries, pipeline companies, and oil-drilling companies. Oil used to bunker vessels is counted under vessel bunkering. Sales to other oil companies for field use are included, but sales for use as refinery charging stocks are excluded.

Farm Use. Includes sales for use in tractors, irrigation pumps and other agricultural machinery, as well as that used for crop drying, smudge pot fuel, space heating of buildings (including farm houses), cooking, and any other use by the agriculture industry.

Electric Utility Companies. Includes sales to electric utility companies, including that used for the generation of electricity. Volumes imported and used directly by electric utility companies are also included.

Railroad Use. Includes sales to railroads, for any use, including that used for heating buildings operated by railroads.

Vessel Bunkering. Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

On-Highway Diesel Use. Includes sales for use in motor vehicles.

Military Use. Includes sales to the Armed Forces, including volumes sold to the Defense Fuel Supply Center (DFSC) for use by all branches of the Department of Defense (DOD).

Off-Highway Diesel Use. Includes sales for use in:

1. **Construction.** Construction equipment including earthmoving equipment, cranes, stationary generators, air compressors, etc.
2. **Other.** Sales for off-highway uses other than construction. Sales for logging are included in this category. Volumes for off-highway diesel use by the agriculture industry are reported under "Farm Use."

All Other Uses. Sales for all other uses not included in any other end-use category are reported here.

Definitions of Petroleum Products and Other Related Terms

ASTM. The acronym for the American Society for Testing and Materials.

Distillate Fuel Oil. A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels.

1. **No. 1 Distillate.** A petroleum distillate which meets the specifications for No. 1 heating or fuel oil as defined in ASTM D 396 and/or the specifications for No. 1 diesel fuel as defined in ASTM Specification D 975.

   a. **No. 1 Diesel Fuel.** A volatile distillate fuel oil with a boiling range between 300 and 575 degrees Fahrenheit and used in high-speed diesel engines generally operated under wide variations in speed and load. Includes type C-B diesel fuel used for city buses and similar operations. Properties are defined in ASTM Specification D 975.

   b. **No. 1 Fuel Oil.** A light distillate fuel oil intended for use in vaporizing pot-type burners. ASTM Specification D 396 specifies for this grade maximum distillation temperatures of 400 degrees Fahrenheit at the 10-percent point and 550 degrees Fahrenheit at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100 degrees Fahrenheit.

2. **No. 2 Distillate.** A petroleum distillate which meets the specifications for No. 2 heating oil or fuel oil as defined in ASTM D 396 and/or the specifications for No. 2 diesel fuel as defined in ASTM Specification D 975.

   a. **No. 2 Diesel Fuel.** A gas oil type distillate of lower volatility with distillation temperatures at the 90-percent point between 540 and 640 degrees Fahrenheit for use in high speed diesel engines generally operated under uniform speed and load conditions. Includes Type R-R diesel fuel used for railroad locomotive engines, and Type T-T for diesel-engine trucks. Properties are defined in ASTM Specification D 975.

   b. **No. 2 Fuel Oil.** A distillate fuel oil for use in atomizing type burners for domestic heating or for moderate capacity commercial-industrial burner units. ASTM Specification D 396 specifies for this grade distillation temperatures at the 90-percent point between 540 and 640 degrees Fahrenheit, and kinematic viscosities between 2.0 and 3.6 centistokes at 100 degrees Fahrenheit.

3. **No. 4 Fuel.** A fuel oil for commercial burner installations not equipped for preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conforms to ASTM Specification D 396 or Federal Specification VV-F-815C; its kinematic viscosity is between 5.8 and 26.4 centistokes at 100 degrees Fahrenheit. Also included is No. 4-D, a fuel oil for low- and medium-speed diesel engines that conforms to ASTM Specification D 975.

Kerosene. A petroleum distillate that boils at a temperature between 300 and 550 degrees Fahrenheit, that has a flash point higher than 100 degrees Fahrenheit by ASTM Method D 56, that has a gravity range from 40 to 46 degrees API, and that has a burning point in the range of 150 degrees to 175 degrees Fahrenheit. Included are the two classifications recognized by ASTM Specification D 3699: No. 1-K and No. 2-K, and all grades of kerosene called range or stove oil which have properties similar to No. 1 fuel oil, but with a gravity of about 43 degrees API and a maximum end-point of 625 degrees Fahrenheit. Kerosene is used in space heaters, cook stoves, and water heaters and is suitable for use as an illuminant when burned in wick lamps.

> **NOTE:** Respondents to the EIA-821 survey were instructed to report all volumes in accordance with what the product was sold as, regardless of the actual specifications of that product. For example, if a No. 2 distillate was sold as a heating oil or fuel oil, the volume would be reported in the category "No. 2 Fuel Oil" even if the product conformed to the higher specifications of a diesel fuel.

PAD District. Petroleum Administration for Defense Districts

PAD District I:

> **Subdistrict IA.** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
> **Subdistrict IB.** Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania
> **Subdistrict IC.** Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia

PAD District II:

> Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio, Oklahoma, Tennessee, and Wisconsin

PAD District III:

> Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas

PAD District IV:

Colorado, Idaho, Montana, Utah, and Wyoming

PAD District V:

Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington

Residual Fuel Oils. The topped crude of refinery operations, which includes No. 5 and No. 6 fuel oils, as defined in ASTM Specification D 396 and Federal Specification, VV-F-815C; Navy Special fuel oil as defined in Military Specification MIL-F-859E including Amendment 2 (NATO symbol F-77); and Bunker C fuel oil. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

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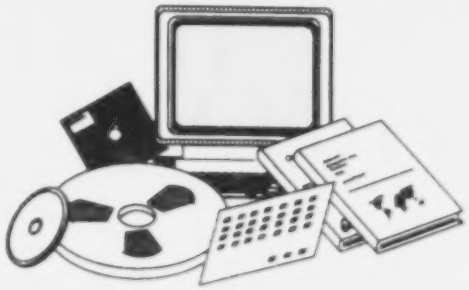

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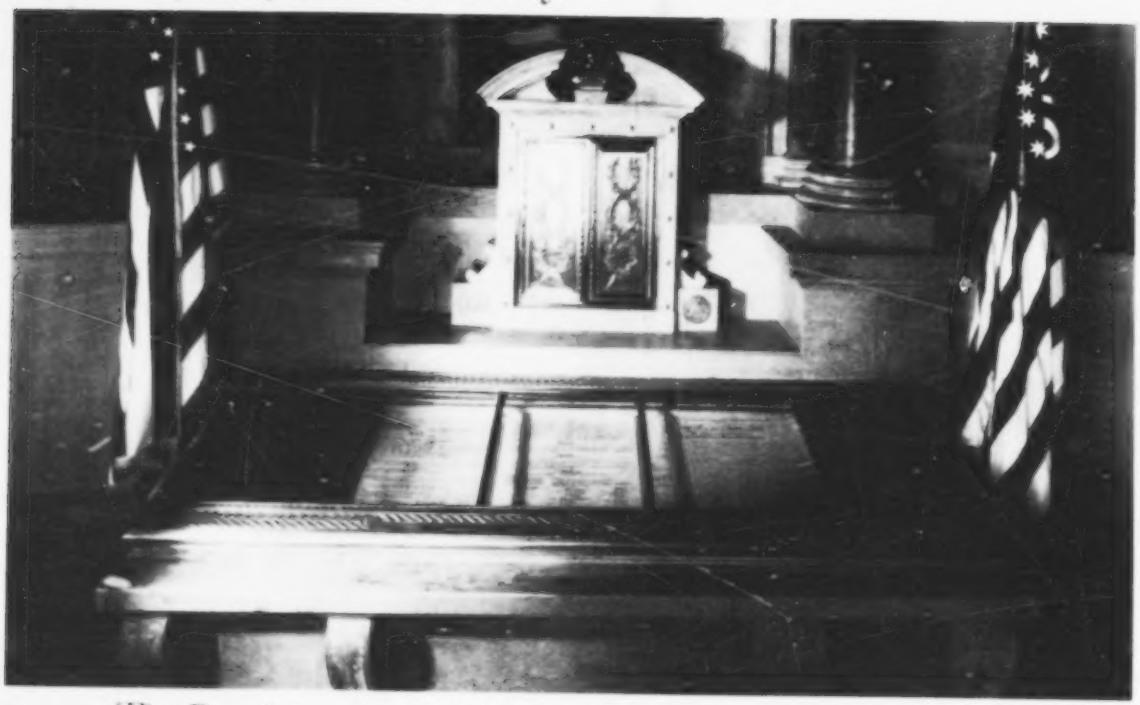

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